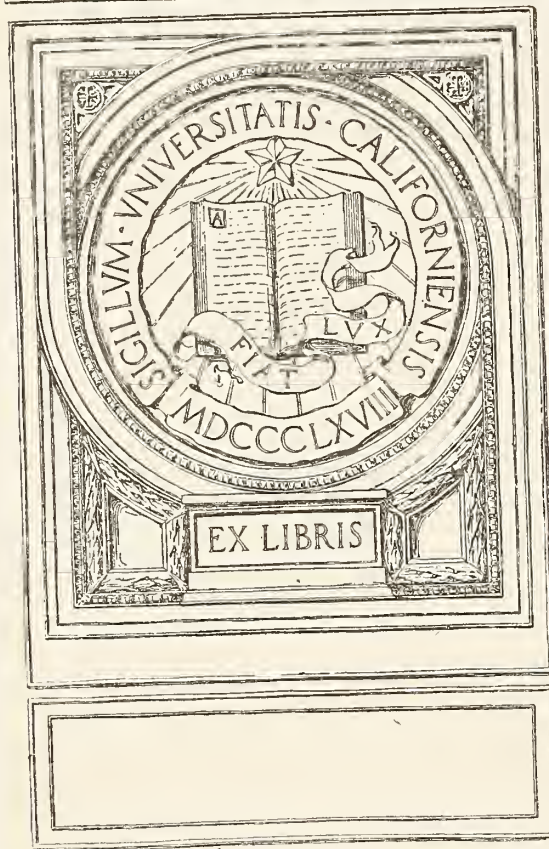
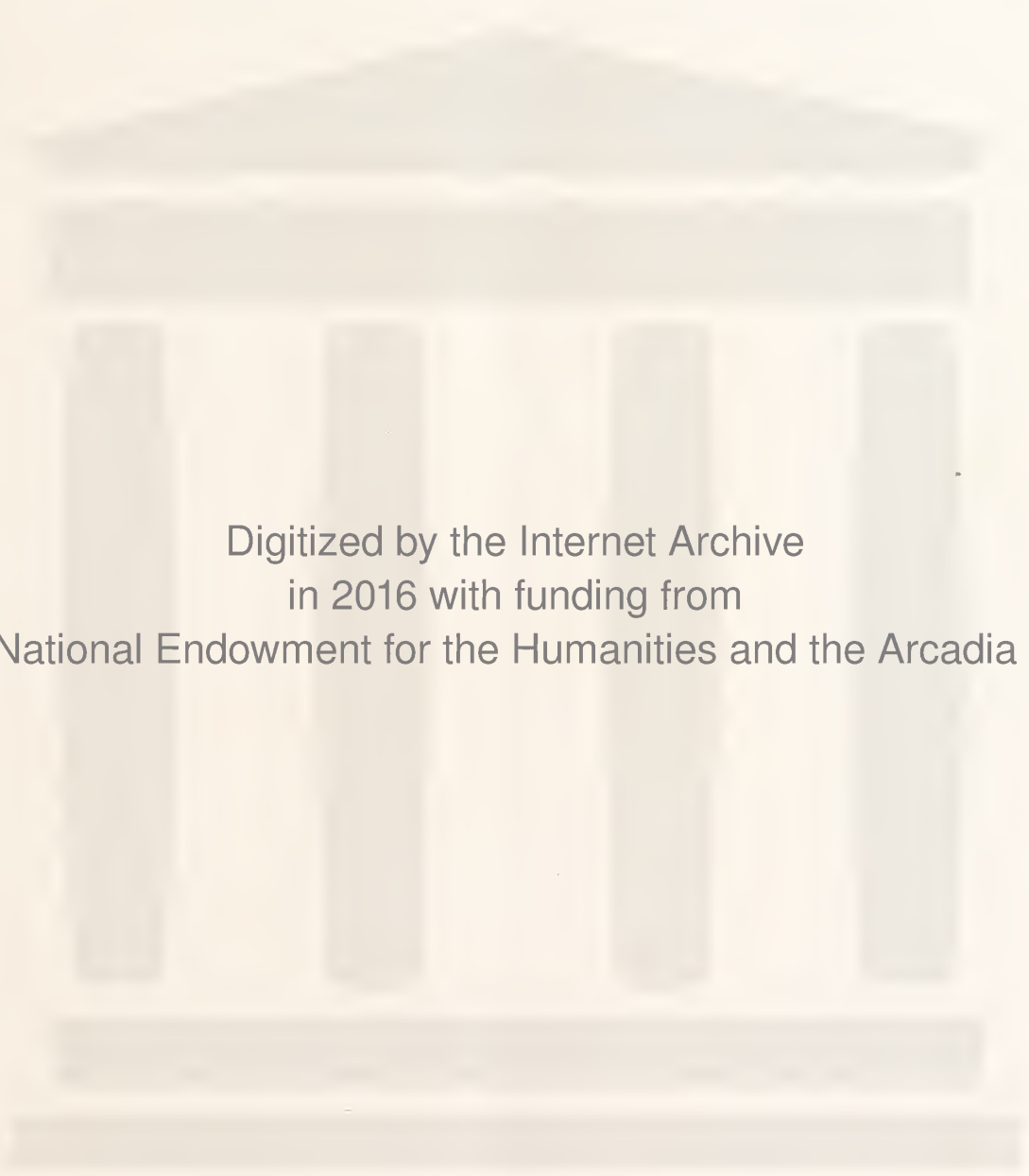


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The Journal of the Iowa State Medical Society

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1924



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No. 1

THERAPEUTIC FADS*

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I was sitting in my office not many weeks ago and for the hundredth time was worrying and fretting about what subject I should choose for my chairman's address to the Iowa State Medical Society. I had been away from home for two days and rather hoped that upon my return I might find a few replies to the statements I had sent out the first of the month. As usual, I was quite disappointed but I found the customary collection of second-class mail including proprietary periodicals, pamphlets, calendars, and blotters each applauding the virtues of this or that drug or other remedial agent. Certainly they were getting replies for their efforts or why this endless stream of advertising. I glanced through one journal devoted to the advertising of their own special products and it seemed that there was a preparation for almost every conceivable ailment. How simple therapeutics had become. Weaved in with their propaganda was the following: "Some years ago the late Sir William Osler is reported to have said: 'The surgeons have been having their innings this past decade, now its our turn; and mark my words, the internal secretions will be the bat with which most of the runs are made.'" How clever to link up the name of a medical idol with their advertising, possibly leading the unthinking reader to infer that Osler endorsed their preparations. Whether or not Osler made the above statement I do not know, but I do know he wrote this: "Organotherapy illustrates at once the great triumphs of science and the very apotheosis of charlatanry. One is almost ashamed to speak in the same breath of the credulousness and cupidity by which even the strong in intellect and the rich in experience, have been carried off in a flood of pseudo-science. This has ever been the difficulty in our profession."

The above suggested to me a subject for my address: "Therapeutic Fads."

THERAPEUTIC FADS

From the days of Hippocrates until the present, there has sprung up from time to time what might be called therapeutic fads, methods of treatment based on theory which often lead the profession into semi-quackery.

For centuries disease was thought to be due to sin or some evil spirit which took up its abode in a person, and naturally means which might either scare or coax the devil out, were the basis of therapy.

Following Hunter's theory of the four humors purging and bleeding seemed to be the logical thing to do.

Soon followed the drug treatment of disease, and polypharmacy.

Because of special views of drug therapy there developed the schools of homeopathy and the eclectics.

Following the discoveries of Lister, Pasteur and Koch, vaccine and serotherapy were the hope of the profession.

This conception was a great advance and has furnished us with some vaccines and serums which have been of the greatest value in preventing and curing disease but nevertheless there are still many of the infections in which their development and use has been a sore disappointment. Most of us recall when phylacogens, (shot gun vaccine therapy) were introduced and how popular they were for a while. A concoction of killed microorganisms was introduced into a patient and comparable with present day polyglandular therapy the patients economy presumably would select those needed unharmed by those not essential.

Not long ago blood transfusions were recommended for almost everything, not only the anemias and diseases with hemorrhagic tendencies, but in pneumonia, typhoid, coma, etc.

Recently "foci of infection" have been in the lime-light and for a time it seemed that the clue

*Address of Chairman, Section on Medicine, Seventy-Second Annual Session, Iowa State Medical Society, Ottumwa, Iowa, May 9, 10, 11, 1923.

to all chronic conditions had been discovered, and great hopes were entertained from the treatment of these foci. A great many physicians felt relieved mentally and a large number of patients were relieved financially by the finding of foci of infection. Many an examination ceased upon the discovery of an abscessed tooth or some upper respiratory infection, the mystery was solved and the treatment indicated, regardless of the patient's complaint, be it fever, cough, rheumatism, anemia, nervousness, indigestion, headache or what not. I do not mean to discredit the role that focal infection undoubtedly plays in disease. These remarks are made in criticism of those who are so cock-sure that the finding of an upper respiratory infection, warrants no further examination of the patient. To illustrate; not long ago within one week two patients were admitted to the State University Hospital with their gums still sore from the wholesale extraction of teeth. One patient was in the last stages of pulmonary tuberculosis whose main complaints were cough and weakness, and the other patient was suffering from a generalized carcinomatosis, whose chief complaint was neuritis. Upon inquiry both of these patients replied that they had not been previously examined below the neck. In other words, in both cases, the examination ended with finding some diseased teeth. Not infrequently tonsils are removed or sinuses drained (under a general anesthetic) in the hopes of clearing up a cough which later proves to have been due to tuberculosis. Is it any wonder there is a field for Christian science, chiropractic, electronopathy and the like?

At the present time internal glandular therapy has the field and again regardless of what a patient's symptoms are, there is a glandular product on the market to meet his needs. How quickly some avaricious manufacturers are to profit by some scientific discovery. Not long after insulin was discovered and its definite value as a therapeutic aid in diabetes made public there followed a response by certain firms to place on the market pancreatic extracts. In spite of the fact that up until the discovery of insulin very little success had attended the use of pancreatic extracts in diabetes, one commercial laboratory has now on the market a polyglandular product recommended in its treatment. When one reads of the difficulties encountered in obtaining a true extract of the Islands of Langerhans minus the tripsin and other ferments present in the pancreas, and when one realizes that insulin is only effective if given hypodermically, how can anyone have faith, as yet in a polyglandular extract which is

administered by mouth, in the treatment of diabetes mellitus? And in endorsing their product this laboratory compares it with insulin, telling of the danger of insulin and the absolute safety of their preparation. How many physicians are going to be deceived, how many patients are going to suffer, possibly even lose their lives in the false hope of the efficiency of this polyglandular extract? No doubt before long testimonials will appear in support of its value, reading something like this "patient a diabetic, male, age forty-eight, had a urinary sugar of 5 per cent. Without changing his diet and after a week's treatment with polyglandular extract (X) his urinary sugar fell to 3 per cent." Now this to some might seem convincing. The patient may have passed twice as many c.c. of urine at 3 per cent as he did at 5 per cent which would make the total grams excreted actually more although the percentage was less. In the directions for the use of this product the percentage sugar and not the total grams of sugar in the urine is used as a guide to dosage.

Compare the methods of the opportunist who has on the market this polyglandular product with the altruism of the discoverers of insulin.

Banting and Best of Macleod's laboratory of the University of Toronto, Canada, the discoverers of insulin, have formally tendered their patents to the University of Toronto. The patents were taken out to prevent commercial exploitation. In time approved manufacturers will be licensed to produce insulin, paying a royalty. The revenue from this will be used to finance a testing laboratory for the commercial product, and to support further research. The originators will receive no financial return from the sales. In other words the discoverers of insulin, an efficient product, have given gratuitously the benefit of their discovery to science, while another member of the profession grasping the opportunity, cleverly weaves the name of insulin in with his propaganda and places on the market a meritless extract.

Were the claims of some of the manufacturers in regard to the virtues of their internal glandular products true, then with the proper therapy old men would be seen jumping fences, and cemeteries could be converted into golf links.

How long is the profession to be humbugged? What is the real status of glandular therapy at present? In Osborn's therapeutics the following summary is given:

1. Those with recognized therapeutic value: thyroid, parathyroid, pituitary, suprarenal, corpus luteum.

2. Those with questionable therapeutic value:

ovary, placenta, mammary, testicle, thymus and pineal.

3. Tissues that have important functions, but whose extracts have not been shown to possess therapeutic value, other than as foods, pancreas (since this publication insulin has been added placing pancreas in group one), spleen, secretin, liver, kidney, parotid, prostate, lymph glands, brain, meat extracts, nuclein.

In only two of all the above, can glandular therapy be successfully substituted for the loss to the organism of the corresponding normal secretion; thyroid extract in myxoedema and cretinism and to some extent it would seem with insulin in diabetes, aiding in the metabolism of sugar.

In looking up material for this paper, I ran across in the "Lancet of January 27, 1923, this statement: "There are three classes of people interested in endocrinology: first, scientific investigators with critical minds who observe accumulated evidence with dispassionate interest; second, persons engaged in attempting to cure disease whose optimism, and eagerness to help, sways their deficient critical sense until they seize at any straw which seems to point to success. This is a large class, including a mass of general practitioners, most dispensing chemists, a number of consultants and not a few journalists. Third, persons who have realized the commercial possibilities in exploiting the human weakness characteristic of the second class. Certain of the firms placing endocrine preparations on the market belong to this class."

Allow me to read to you part of a paragraph from the late Sir William Osler's article on the "Treatment of Disease" in the Oxford System. It would be well worth the time for those that have not read it to read the entire article:

Each generation has its therapeutic vagaries, the outcome, as a rule, of attempts to put prematurely into practice theoretical conceptions of disease. As members of a free profession we are expected to do our own thinking; and yet the literature that comes to us daily indicates a thralldom not less dangerous than the polypharmacy from which we are escaping. I allude to the specious and seductive pamphlets and reports sent out by the pharmaceutical houses, large and small. We owe a deep debt to the modern manufacturing pharmacist who has given us pleasant and potent medicines in the place of nauseous and weak mixtures. But even the best are not guiltless of exploiting in the profession the products of a pseudo-science. Let me specify three things in which I think the manufacturing pharmacists have gone beyond their limit and are trading on the credulity of the profession to the great detriment of the public. The length to which organotherapy has extended (not so

much on the American side of the water as on the European continent) beyond the legitimate use of certain preparations is a notorious illustration of the ease with which theoretical views place us in a false position. Because thyroid extract cures myxedema and adrenalin has a powerful action, it has been taken almost for granted that the extract of every organ is a specific against the diseases that affect it. This forcing of a scientific position is most hurtful, and I have known an investigator hesitate to publish results lest they should be misapplied in practice. The literature on the subject issued by reputable houses indicates, on the one hand, the pseudo-science upon which a business may be built up, and, on the other hand, the weak minded state of the profession on whose credulity these firms trade. A second most reprehensible feature is the laudatory character of literature describing the preparations which they manufacture. Foisted upon an innocent practitioner by a traveling autolytus, the preparation is used successfully, say, in six cases of amenorrhea; very soon a report appears in a medical journal, and a few weeks later this report is sent broadcast with the auriferous leaflets of the firm. Some time ago a pamphlet came from X and Company, characterized by brazen therapeutic impudence, and indicating a supreme indifference to anything that could be called intelligence on the part of the recipients. That these firms have the audacity to issue such trash indicates the state of thralldom in which they regard us. And I would protest against the usurpation on the part of these men of our function as teachers. Why, for example, should Y and Company write as if they were directors of large genitourinary clinics instead of manufacturing pharmacists? It is none of their business what is the best treatment for gonorrhea—by what possibility could they ever know it, and why should their literature pretend to the combined wisdom of Neisser and Guyon? What right have Z and Company to send on a card directions for the treatment of anemia and dyspepsia, about which subjects they know as much as an unborn babe, and if they stick to their legitimate business, about the same opportunity of getting information? For years the profession has been exploited in this way, until the evil has become unbearable, and we need as active a crusade against pseudo-science in the profession as has been waged of late against the use of quack medicines by the public. We have been altogether too submissive and have gradually allowed those who should be our willing helpers to dictate terms and to play the role of masters. Far too large a section of the treatment of disease is today controlled by the big manufacturing pharmacists, who have enslaved us in a plausible pseudo-science. The remedy is obvious: give our students a first hand acquaintance with disease, and give them a thorough practical knowledge of the great drugs, and we will send out independent, clear headed, cautious practitioners who will do their own thinking and be no longer at the mercy of a meretricious literature which has sapped our independence.

In conclusion the question might be asked, how should we choose our drugs or other therapeutic agents? We cannot possibly try all that are on the market. What ones should we select? Would it not be wise to use such therapeutic agents or procedures that have been tried out and have been found to be of value in the larger medical centers, not that I mean to infer that those fortunate enough to be affiliated with the larger clinics are necessarily more intelligent than those in general practice, but because of the fact that they have the time, the opportunity, the assistance, the laboratory and the technical equipment necessary for research. As an illustration, take quinidine. Quinidine was found to be a great drug in the treatment of auricular fibrillation, however, its use seemed to be attended with the grave danger of embolism. After considerable investigation it is found that its use is only safe in the treatment of auricular fibrillation of recent origin. As another illustration, might be cited toxin, anti-toxin therapy in the prophylaxis of diphtheria. An investigation by the New York Board of Health found its use to be 90 per cent efficient. Its beneficial effects seem well proven.

The general practitioner has not the time nor the facilities to engage in research, yet bedside observation of a large number of cases by a large number of physicians, in a certain definite disease or condition, using the same therapeutic procedure or product with a sufficient number of cases as controls, later comparing their results should furnish rather reliable information of the efficiency or inefficiency or therapeutic value of this or that procedure or therapeutic product.

ROUTINE TREATMENT OF ACUTE OTORRHEA WITH ESPECIAL REFERENCE TO CHILDREN*

OTIS WOLFE, M.D., MARSHALLTOWN

There is need of more exact standards to be attained by the treatment of acute suppurative otitis media. At present, the members of the medical profession generally, and otolaryngologists in particular, are much at variance in regard to it, which, inasmuch as it is of relatively common occurrence among children, and by no means rare among adults, means that such patients are often left to suffer permanent impairment of function and health, or even to die, because, these

cases are not promptly and routinely treated in a thorough and scientific way.

On one side we have the optimists, who look upon acute otitis media as a comparatively simple condition, which will go on to rupture, discharge of pus, and final drying-up and—in rare instances, develop into a mastoiditis which will require surgical intervention. One frequently hears supposedly competent “family doctors” asserting that if the canal is “kept clean” the discharge will “dry up,” and nothing more will probably be necessary. Such advice subjects the patient to the risk of loss of hearing, or even life itself, and if offered when an appendicitis was in question would justly be regarded as homicidal.

On the other side we have the pessimistic practitioner, or more often the zealous otologist, who sees a mastoiditis requiring surgical interference in every febrile patient with a discharging ear, especially if the discharge does not clear up immediately.

Every otologist sees many neglected cases from the practice of our optimistic colleagues where irreparable damage has been done to the tissues and the hearing perhaps permanently impaired. He also knows of lives lost from dangerous complications and sequelæ. Past experience and familiarity with statistics, added to the results of his training, have taught him that there is little danger in the early simple mastoid operation as advocated by such men as Philips,¹ whose simple posterior drainage operation seems most rational. Even such intervention will, however, be unnecessary in a large percentage of cases if the procedure which I am about to describe be early inaugurated. The suction feature of this routine accomplishes the same ends as surgery, and even has a more extended usefulness.

The zealous otologist stands on safer ground than the optimistic practitioner; there can be no argument regarding that. The simple mastoid operation, performed early, has achieved some of the finest results in surgery, and with a minimum amount of danger. He who advocates early operation will perhaps criticize me by saying that my treatment will occupy the time in which the early simple mastoid operation could have been performed with safety. That is perhaps true, but I hope to show that, in my experience at least, this has not been the case.

I submit for your consideration a routine procedure which I believe bridges over the gap separating the two extremes of treatment above described. This routine procedure will not only enable the physicians to dry up the discharging ear and to obviate deafness, but will also prevent

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mastoiditis in a large majority of cases. I am even bold enough to say that, if it is instituted early and carried out consistently, the mastoid operation following otitis media purulenta acuta will seldom be necessary. We are keeping figures covering somewhat more than three hundred cases, occurring in the private practice of my partner, Dr. F. L. Wahrer and myself, which have been treated in this way during the last five years. It is still too early to report them in statistical form, but we hope to do so at a later time. There is no surgical condition more responsive to treatment than an acute purulent otitis media. Even with the virulent types of streptococcus infections, such as those following scarlet fever, the routine, both with and without slight variations, has so far proved highly efficacious. It has uniformly shown the same results, except in a few very virulent streptococcus infections which required early mastoid operation. Most of these had well developed mastoid symptoms when they came under our care. No better treatment can be offered for the scarlet fever ear, both for "clearing up" the discharge and the prevention of complications, such as mastoiditis, etc. Even if a mastoid operation is performed, the procedure is just as valuable in conjunction with, and in preventing further complications.

There is nothing new in the procedure or the treatment; it is simply the systematic routine application of comparatively well known facts. I have divided it under the three following headings:

First—General Care.

Second—Care of the Ear.

Third—Treatment of the Nasopharynx.

1. *General Care*—Generally speaking, every acute purulent otitis media, whether a result of an acute coryza or following one of the exanthemata, should be treated as a major case with serious potential dangers. Rest in bed, or at least confinement to the house, is advisable, even in the seemingly mild cases, and this is especially essential if the patient has an elevation of temperature. All patients who have an infection where the streptococcus is the prevailing organism should be placed in the hospital at the onset, which is, indeed, the ideal place for the application of the treatment in any type of case. It is frequently very difficult to convince the parents and the family physician of the advisability or the necessity of hospital treatment, but we hospitalize as many of our cases as possible, and have seldom failed to prevent mastoiditis when we have been able to do so.

Malnutrition, rickets, diet, state of the bowels, kidney complications, etc., must all be carefully

considered. Rickets and malnutrition often exist to a more or less degree in apparently well nourished children, and nothing has been so efficacious in these conditions as cod-liver oil and syrup of ferrous iodid. These complications are frequently encountered and their elimination is often a very important factor, especially in preventing an acute case of otitis media from becoming chronic. The vitamins of cod liver oil are a specific. I give it routinely. Though the pediatrician or the family physician should take care of this part of the treatment, the otologist is frequently called upon to see that it is administered, for in many cases results are not obtained for no other reason than neglect of this general care.

2. *Care of Ear*—Patient should be sent to the hospital, if possible, and in our subsequent remarks we shall presume that this has been accomplished. General examination and detailed examination of the nose and throat is made, and complications noted and cared for as far as possible. Children are put to bed; adults either in bed or confined to their rooms at first. The routine ear treatment is then instituted, as follows:

P (peroxid of hydrogen), I (irrigation), S (suction), A (alcohol 50 per cent to 75 per cent in ear), (argyrol or silvol 10 per cent to 15 per cent in nose). I have labeled this procedure the P. I. S. A. treatment merely to aid in fixing it in the attending nurse's memory so that it may be more thoroughly impressed as a routine. Peroxid is instilled in the ear, and allowed to remain three to five minutes; the ear is then irrigated with warm boric solution. Suction is next applied (we use one of the portable electric machines with glass suction tip). Alcohol is now dropped in the external canal and allowed to remain for some time, while the patient lies on the opposite side. Argyrol or silvol is dropped in the nose with a medicine dropper, the patient meanwhile lying on his back. Some operators object to peroxid but our experience does not sustain the objections. Peroxid breaks up and dislodges the pus secretions by its explosive action. If the suction is being frequently applied, peroxid need not be used every time. Irrigation is advocated instead of mopping, being safer and more easily administered by the average nurse. After the external canal has been cleaned, suction is applied and should the peroxid or the irrigating fluid have penetrated beyond the drum, it will be withdrawn by the suction. This meets the objection offered to the use of hydrogen peroxid, and irrigation.

All otologists agree that keeping the canal clean and free from pus is of the first importance. The value of this was particularly demonstrated to me when I was associated with Dr. Frank All-

port of Chicago. He was very careful to order that the ear canal be at all times kept free from pus and many cases were cured by this procedure alone. This is all very good as far as it goes, but suction is a more valuable means of accomplishing this end, and its unquestionable value can be demonstrated to the most skeptical if suction is applied after the canal is wiped clean and free of all pus, when pus will appear in the canal, or exude through the drum membrane. Suction also promotes hyperemia and stimulates phagocytosis. The first axiom of surgery is "obtain drainage of retained pus," and this, suction most emphatically accomplishes. Early and free incision of the tympanic membrane is none the less necessary, but in this discussion we will presume that the ear is draining when it comes under our care.

To cite a few details which seem quite important: When first used, suction should be rather lightly applied, the patient's complaints of discomfort or pain being the chief guide. We control the amount of suction by using a glass tip which has a hole in it over which the finger can be placed. One quickly learns the proper amount of suction and the finger can be more quickly released if suction becomes painful than with any sort of valve or gauge apparatus. The glass tip should be too large to penetrate the canal to any considerable depth. A desirable "milking" action is obtained by slightly withdrawing and reinserting the tip. The patient's head should be inclined to the affected side so as to utilize the effects of gravity.

In regard to alcohol solution in the ear after suction, there is some doubt as to its necessity. It is of secondary consideration, at least. In the early stage we sometimes use 5 to 10 per cent phenol in glycerin as its hygroscopic action is beneficial. In the late stages, compound tincture of benzoin and powdered boric acid are sometimes used, and many other suitable applications could be mentioned. Generally speaking, however, I have found that alcohol covers the field quite as well.

In the very acute cases we use suction two hours; if unusually severe, as often as every hour; though after some observation, I do not believe it is often necessary to use it more frequently than every two hours. As the discharge begins to abate and the temperature to subside, we lengthen the intervals between suction treatments to every three or four hours, using it only often enough to keep the canal free from pus. In chronic cases (otitis media purulenta chronica) without bony necrosis, the treatment is essentially

the same. Time does not permit me to go into it further at this time, but I hope to be able to take up its application in this condition in a later paper, and recommend it for your consideration. Much could be said regarding both chronic and acute exacerbations of chronic salpingitis.

In the acute cases, the value of this routine treatment has been particularly demonstrated to us by the drop in temperature and pulse rate immediately following its application, as shown in the case reports.

3. *Treatment of the Nasopharynx*—The last and most important division is worthy of the utmost consideration. Here the keynote should be prevention though it is not always possible to attain it. We have many cases in which no thought or attention was given to the nose and throat until the ear symptoms developed. The majority of such patients have some definite history or findings in the nose and throat indicative of previous trouble. Occlusion or partial atresia of one or both nostrils may be present, together with deviated septum, enlarged turbinates, sinusitis, etc. Despite this brief mention, these are most important. The duration of the discharge and tendency for it to become a chronic process will depend, to a great extent, on how much these conditions of the nose, nasopharynx and pharynx are affecting the middle ear by the Eustachian tube route. They must be dealt with either by treatment or surgery, or perhaps by a combination of both.

We have found argyrol 10 per cent or silvol 15 per cent dropped in the nose while the patient is lying down, is of much value. It has been shown that it spreads quite thoroughly over the mucous membranes of the nose and nasopharynx, and quickly allays inflammation. We use it every two hours, frequently followed by phenolated petrolatum, and have discarded all douches, sprays, etc., in its favor. Many cases of catarrhal otitis media caused by inflamed adenoids and tonsils can be temporarily relieved by this means, and immediate removal of these offenders, with the continuation of the nasal treatment, often prevents the acute purulent otitis from developing. This is our first consideration in acute catarrhal otitis media (earache) together with early and free incision of the tympanic membrane if it shows signs of bulging. The condition of the nose must also be carefully considered especially in adults.

Enlarged or infected tonsils and adenoid tissue are often found in adults as well as in children and the same is true of sinusitis. Dean² and others have called attention to its frequency in children. It has been our experience, as well as that of authorities we have consulted, that, in chil-

dren, infected adenoids and tonsils are the chief foci of infection from which the acute purulent otitis develops. Probably 95 to 98 per cent of all cases occurring in children, can be directly or indirectly attributed to diseased tonsils and adenoids, though this statement must be qualified by adding that a great deal of hypertrophied lymphoid tissue is due to such causes as malnutrition, rickets, poor ventilation, defective hygiene, etc. First causes, here, as elsewhere, are difficult to determine, though they must be considered and dealt with. Whatever the chief etiological factor, it is apparent to the otologist that he must abolish the nasopharyngeal infection and obstruction in order to treat properly and cure the otitis media. He must consider the prevention of these chronic ear infections, as well as the cure of the acute ones coming under observation. The difference between acute catarrhal otitis media, acute purulent otitis media, and mastoiditis is only one of degree. The otologist must always endeavor to prevent an acute otitis from becoming a chronic condition, or the loss of the patient's hearing, or the occurrence of surgical complications.

The otologist, as a rule, is fully cognizant of the role played by the tonsils and adenoids but the family physician, the pediatricist and the parents are not so easily convinced. In an article entitled "Does Removal of Adenoid Vegetation Prevent Disease of the Middle Ear?" John Zahorsky³ raises this question, and takes issue with the accepted views of the otologist. It is impossible to make a definite statement; I am nevertheless convinced that multitudes of middle ear diseases would be prevented if tonsils and adenoids and their recurrences were removed at the first sign of ear involvement. It must be remembered in the treatment of either an acute or chronic otitis that one should not depend on the history of "having adenoids removed." They frequently recur; in young children it is the rule rather than the exception. Even small pieces when they are situated on the lateral wall where they encroach on the fossa of Rosenmueller, are sufficient to be the underlying cause of an otorrhea. Adhesions from a previous adenectomy are common; they should be broken up with the finger and kept from reforming. Only recently I removed a large amount of adenoid tissue from the same site where I had done a most careful removal four months before. The most exacting operator may leave small pieces which grow rapidly, especially if the child has a low resistance, suffers from malnutrition, or is subject to poor hygiene and ventilation. No matter what the history of previous removal may be, I always ex-

amine and reexamine for the recurrence of adenoids. When dealing with children one can make a better diagnosis by feeling in the nasopharynx with the finger than by any other method. With adults, the Holmes nasopharyngoscope may be utilized.

Nasopharyngeal infection and catarrh, arising from the causes above mentioned are usually the obstacle with which the otologist is confronted, when an acute otitis has dragged along and is becoming chronic. Of course there is no sharp line of demarcation between the two conditions. The longer the case runs, the harder it is to treat and cure. Therefore, it is wise to prevent chronicity.

When the question of adenoids and tonsils comes up in considering an impending or present acute purulent condition, I most emphatically recommend their radical and early removal, and agree most heartily with Glogau⁴ whose views are set forth in his excellent article on this subject. I have seen many cases in which I am positive mastoiditis has been prevented by the removal of tonsils and adenoids, combined with the P. I. S. A. treatment. I believe the extirpation of the diseased adenoid tissue alone would perhaps have been sufficient in many cases, but the routine treatment is a valuable adjunct, and in my opinion, goes a step further. It takes care of the infective discharge, while the underlying cause is being removed. Harold Hayes⁵ in a masterly discussion of the prevention of deafness, takes up the different phases of the subject of removal of tonsils and adenoids in that connection. A catarrhal otitis media, manifested chiefly by deafness, and caused by infected adenoid tissue, needs only an extension of the process, or the invasion of an infecting organism, to become acute and purulent, or even progress to a mastoiditis. The arguments advanced by Hayes apply with equal force in the consideration of acute purulent otitis media.

Many cases come to us with a diagnosis of acute otitis, which should more properly be classified as acute exacerbations of a chronic purulent condition. In either the chronic purulent, or the acute catarrhal condition in children in whom the tonsils and adenoids have not been removed, our first thought is to consider the immediate extirpation of the diseased tissue. If this has been previously done, a careful search for recurrence, especially in the nasopharynx, should be made. Too much emphasis cannot be placed on this. Sometimes when a patient has a very high temperature, with other symptoms in proportion, we do not feel justified in taking the chance of operation; one does not always have the courage of his convic-

tions; so we use the routine intensive treatment for a time preparatory to the removal of the diseased adenoid tissue. It has been our experience, however, in some of the worst cases, where an acute mastoiditis seemed imminent, with tenderness, elevation of temperature, rapid pulse, high leukocyte count, etc., all indicating mastoid involvement, that immediate improvement was noted after removal of the tonsils and adenoids. Glogau⁶ dwells especially on this, and in a recent conversation, he told me that he is more firmly convinced than ever of being able to prevent mastoiditis by the removal of tonsils and adenoids. Our experience leads us to agree fully with Glogau; in spite of seeming contraindications, if mastoiditis seems imminent, they should be removed. The Sluder operation, on account of the rapidity with which it can be performed, and the small amount of anesthesia needed, is ideal for children. It seems rather significant that the only cases in which we have been required to perform a mastoid operation where a positive indication did not exist at the time they came under our care, were those in which we did not remove the tonsils and adenoids at the onset. These were cases in which the general condition of the patient seemed to contra-indicate any surgical procedure. After watching them become surgical cases requiring mastoidectomy, I am now convinced that it would have been better to have taken the chance, and I do not now consider a temperature of 102 to 103 in children as a contraindication if there are no complications. We have had no unfavorable results, but on the contrary, improvement without exception.

General Conclusions—We do not wish to submit this routine treatment as a substitute for the simple mastoid operation, or depreciate in the least the value of this procedure. We submit it as a logical routine to be used at the onset for the acute running ear, and emphasize its usefulness as a preventative measure in mastoiditis, and other ear complications.

When a mastoidectomy is indicated, the family physician and otologist should not defer it, thereafter P. I. S. A. treatment for the ear should be carried out just as if no surgery had been employed. The nasopharynx should be treated in the same way and tonsils and adenoids removed to facilitate rapid clearing-up of the middle-ear infection and to abolish any chance of recurrence. Surgery will be avoided in many impending cases of mastoiditis if this treatment is thoroughly applied. I would refer you to Emerson's⁷ article on "Indication for Opening the Mastoid Cortex," which covers this ground fully. Many

of our cases showed a leukocytosis, a fact which would seem to depreciate from its value as an indication.

In conclusion, we would especially emphasize the need of early care and treatment of every discharging ear, together with the advisability of hospitalization.

A high temperature in a child with an acute purulent otitis media may be due, wholly or in part, to a nasopharyngeal infection, and, may, therefore, be quite misleading. In the last three years we have had many cases of acute glandular fever in which such an otitis was also present. The glandular enlargement, persistent elevation of temperature, and a tendency to chronicity made diagnosis difficult.

Periostitis is the most frequent complication we have met, and on account of the tenderness and pain over the mastoid, is frequently considered an indication for a mastoid operation. Recurrence of an acute purulent otitis media seldom takes place when the procedure here advocated is used, whether with or without the simple mastoidectomy; whereas, when a simple mastoid operation alone has been performed, recurrence is very common.

Case 1. Male, aged four. Influenza four weeks previously; two weeks ago, pain in right ear gradually growing worse. The family physician incised the tympanum and obtained free drainage at once. Continued high temperature, 103 to 104; general condition rather poor; pain especially at night. Admitted to the hospital February 29, 1920; at 4 p. m., the temperature was 101.5 and the pulse 108. Examination showed free pus drainage from the right ear which showed a large posterior perforation; marked tenderness over right mastoid. Acute rhinitis, with partial nasal obstruction; large, inflamed tonsils; and large adenoids. A culture from the ear showed streptococcus, and the white blood count was 12,000. Placed on the routine treatment. The temperature remained high in the afternoon, though several appreciable drops showed on the temperature chart following the treatments; the discharge was very free. In the course of four days the temperature was gradually lowered, the discharge becoming more mucoid, and the mastoid tenderness disappeared. March 10, the tonsils and other adenoid tissues were removed. The patient was dismissed March 16, the ear being quite dry. An Ingersoll watch could be heard at two feet on the left; at three and one-half feet on the right. One month later the left was normal.

Case 2. Male, aged two and one-half; one of twins. An attack of measles has been followed by a severe bronchopneumonia lasting for two weeks, after which both ears began to discharge freely, the left first. April 21, 1921, the baby was admitted to the hospital in a very poor general condition; temperature 102.5, pulse 120. Both ears were discharging

freely through large perforations; there was tenderness over the left mastoid; an acute rhinitis with obstruction to breathing; large infected faucial tonsils, inflamed, hypertrophied pharyngeal tonsil, and the glands of the neck swollen and tender on both sides. A culture from the ear showed pure streptococcus, and a leukocyte count of 16,000. There was restlessness and much loss of weight and little appetite. On routine treatment, there was some improvement in the ear symptoms, but much pus was still in evidence. No appetite and no improvement in the general condition. In spite of the protests of a very competent family physician, we removed all the hypertrophied adenoid tissue on April 28, 1921. Three days later, both ears were dry. The administration of cod-liver oil and iron was started the day following operation, and a much improved child was dismissed on May 4, 1921. When brought to the office three weeks later he had gained seven pounds and the father said laughingly, "He eats me out of house and home." He could scarcely be distinguished from his twin, who is an unusually healthy boy.

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PLASTIC MEDICINE*

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The subject was coined because of its extent and because of its having a positive and a negative phase, the power to mould, and the capacity of being moulded. In a position where hospital contact is made daily with physicians from the smaller towns in a distinctly rural community, it is notable that, by far the greater per cent of men are well abreast of present day medicine. We do not hear such diagnosis as gastric neuralgia, auto-intoxication and biliousness—even our old friend's hysteria and neurasthenia are applied with greater caution. As a rule, the salient points of a case have been well gone over and except for a few refinements as laboratory or radiographic work, very little is asked of us. More and better work is being done on cases and while those that give the least difficulty get the least work, nothing is more natural.

As an example, the cardio-vascular-renal complexes are made out and the fact that an interstitial nephritis with its accompanying destruction of heart and vascular tissue, even in comparatively young individuals, is commonly diagnosed and appropriate treatment instituted. We see in consultation cases of lobar pneumonia, where the patient is not required to take more than a couple of kinds of medicine, as contrasted with pills in all the available saucers in the house of some years ago.

It has become recognized that tuberculosis can be positively diagnosed without a sense of insecurity in diagnosis, if the patient recovers in our Iowa climate.

Cases that are manifestly surgical are referred with much more promptness and in most instances disaster is brought on by the refusal of the patient or friends and a disregard of advice of the physician. In appendicitis, the remedies, markedly those of the explosive character, figure less in the case histories.

As regards the endocrines, we are all of about the same density, having the same meager pharmaceutical pamphlet pathology with a world of advice as to treatment.

We observe, on the other hand, that the ordinary lay individual down in our corner, can tell pretty well when he has a pneumonia. Pain in the right lower quadrant with nausea or any of the other sometimes accompanying symptoms, has usually been pretty well worked out by the patient or friends. The neighborhood can usually come to a satisfactory agreement concerning tuberculosis long before a positive sputum can be elicited. And the physician who ventures socially is due for at least some of the symptoms of an artificial menopause if he cannot with fair intelligence, cover vitamins, calories, the salicylate derivatives and often Freud and Havelock Ellis, depending on the social strata invaded.

The medical education of the public, though it limits our field more and more, is no doubt, our greatest stimulus and it works both ways. The air of bored indifference we are just able to assume when subluxation and nerve impingement are lauded in our presence, ought to be suggestive to us that, in some place we are wanting. Also, we are indeed fortunate that the individual who is himself suffering, develops a disregard for the written word as applied to himself. So we have had working for us in the past some years, a medical education of the public which for the most part has kept pace with us, sometimes forging slightly ahead. For this, we are indebted to our special workers and the transmittal of their

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work by writers endowed with the ability to make medical subjects interesting to the public.

If it is true then, that the public is shaping our activities and in nearly every phase, what can we do about our lines of least resistance—that of giving the patient what he can reasonably demand and what he expects to pay for? Can we be content to remain in that position of referring cases that cannot be satisfactorily followed because of absence of laboratory and hospital facilities, to the larger centers and splitting with the “paths” and “isms” that great per cent who have only transient pathology or none at all?

Medical grouping in the cities, even with its hospital advantages, has been necessary in many instances to completely guard all the medical sectors. This is impossible in our villages so that the marine on the present day frontier of medicine must group alone; and the only practitioner under the age of fifty, who has invaded our territory comprising several counties, all good farming communities, has left to take up special work in a city because he was worked too hard. This man with his six, seven, or eight year medical education, liberally enriched with technical training, could not see a future in volume of work alone. So that with the best of education, with the most conscientious and painstaking work, there still remains wanting, often the deciding factor in the findings—weakening the diagnosis, the moral, and resulting in an insecurity in treatment.

Brave attempts have been made by some of the physicians in small places to follow the advance in laboratory clinical work, in radio, and the different therapies and many a back room contains the remnants of apparatus attesting hopes unrealized.

When it comes to a remedy for this peripheral constriction of medical advantages, what can be done by way of treatment: Stimulation of the higher centers has been advised in counsel and we are hoping for results.

The county society, functioning as an individual, has in the majority of cases failed miserably as an instructive agent especially in the newer fields, and it would appear that our only hope lies in closer affiliation and higher organization directed county clinics.

Clinics under the direction of other agencies have been held and with great advantage but often have not been fitted to the needs of the men in the particular community and have been so to speak fleeting in character. Are county clinics under the direction of the State Society entirely out of the question?

Laboratory and hospital facilities which are fast becoming not only advantageous but imperative to the recent medical graduate, is a complex subject. The disinclination of a man in perfect health to think in terms of one who is sick works such a hardship on the establishment of hospitals and laboratories in the smaller communities that unless definite pressure can be made to carry out the county hospital law already enacted the small town physician's office will be only a stopping place.

Summarizing—From the standpoint of one who meets in hospital work daily physicians from the smaller communities and has a fairly adequate idea as to what they need. The average general practitioner is capable and anxious to do good work but will always be limited to a small sphere unless organization can help him out and if not the State Society then what?

Discussion

Dr. Paul A. White, Davenport—The paper was a little bit too deep for me to get most of the points, largely written in figures of speech, but I take it the subject matter is largely one of coordination among physicians, in which I am very much interested. At Davenport we have made a start. The problem is a big one and we admit it. We feel that we are floundering around in an uncharted sea and no land in sight. The question of clinics was mentioned. It does not seem to those of us who have had experience in clinics that the private clinic is going to fill the need of all physicians. Much has been written about the private clinic. A paper recently appearing in the Illinois Medical Journal spoke briefly from the financial and medical standpoint, even taking up the subject of making physicians of the surrounding country associate members of the clinic and allowing them a portion of the fee paid by the patient. Theoretically that is a beautiful idea and I believe contains some of the elements of final solution. However, personally, I happen to know that there is another clinic in that same town which is going to attempt to organize that community into associate physicians and necessarily will offer them a portion of the patient's fee for association in their clinic. So we get back to the fundamental proposition that has been the bugbear for so many years. In Davenport we have attempted to include all the physicians in the community. We have been meeting at luncheons more to rub elbows and iron out the difficulties in personal relationship. We have had several meetings, and finally the other day we made a mimeographed statement of our aims in a humble way and presented it to the profession. About thirty-five men attended the dinner, and many of the older men in town said that was the largest body of physicians gotten together in Davenport in thirty years. The county society was mentioned. The county society at Davenport is dead. It has been the seat of con-

tention, and personal squabbles have been settled in it for many years. Evidently the county society is not the solution of the problem. As stated, we had thirty-five men at our meeting and there was not a dissenting voice to the very simple proposition that we made, which was in substance this: First, the adoption of a standard record sheet for all the men, so that when cases are consulted upon or passed around in the community we will all have a common understanding of what we mean by certain statements. Each man can have a place to enter his opinion, and if the case is ever considered again it can be seen what was taken up with respect to that particular patient. Second, an opportunity for each man to put down the special line of work he thinks he is best able to do, when of course every one immediately begins to consider what training he has had in a particular line and then an investigation is made. As an illustration, I had a case of posterior combined sclerosis, I had not had much neurological experience, but after this chart was made I found we had a man who knows much of neurology. Of course the eye, ear, nose and throat work has been a recognized specialty for years. But we have made this classification and allowed men to enroll themselves for work along a chosen line. We have uncovered the desire of men in the profession to specialize in a certain field. Therefore, first we have arranged for the adoption of a common record sheet, and, second, we have the classification of our men, and of course many of them are doing general work and fall in that classification. Then we have cards and envelopes to facilitate reference amongst these several men. We will have a messenger who will coordinate by taking these reference cards and assisting patients in getting from one office to the other. If we are successful in having thirty-five to forty out of sixty-five physicians in Davenport work together harmoniously, we anticipate that in a few years, if the men are in earnest, we can all have offices in one building and thus facilitate our work. As I have said, it is a big problem. There is no question about the crying need for such an arrangement. At the session yesterday and also in the April number of the State Journal were little underground mutterings about the complicated methods of diagnosis. In the discussion of Dr. Shellito's paper presented Thursday morning Dr. Donald Macrae said we ought to use palpation, inspection, etc. There is nothing against this, at the same time we should use other methods which are of great assistance in diagnosis. We all know that in most cases too little special work is done instead of too much. The communication to the Journal was written in a humorous vein by a man who had gone to the city to see a famous doctor, he had many special examinations, was not relieved, went home and finally consulted the family physician who found a little anal fissure, applied something in a bottle which was marked "carbolic acid," and the patient was cured. And he wondered if the charge of two dollars for applying carbolic acid to an anal fissure and curing it was not too much when he had paid the

city man \$37.50 for an x-ray of the stomach, examination of nose, throat, and so on. There is no question but that the average doctor in a city of even 50,000 inhabitants, is not much ahead of the country practitioner. In Davenport there are ten x-ray outfits. What a waste of money and energy for each man to make special examinations of his own patients away from x-ray machines, the men who have these machines are getting experience with only their own patients, therefore we do not feel confidence in their x-ray ability because of limited experience. It seems to be such a common-sense proposition for the doctors of a community to get together and give one man all this experience so that his opinion will be worth while, and in a few years he will become expert as Carman of the Mayo Clinic has become expert. And that seems to be the problem in the cities—the development of the men themselves; not bringing in more x-ray machines and laboratory equipment, but coordinating all the equipment we have, and also effecting coordination of the talent that is already present in every city.

Dr. J. W. Kime, Fort Dodge—This is a new question and one of great importance, and also I feel that it is a question fraught with danger. In Fort Dodge we have, I believe, the most harmonious profession that there is in the State of Iowa. We meet every Tuesday night, I think the only medical organization in the state that does meet every week. Every doctor is a friend of every other doctor. We are just starting in the line of clinic work. We have one most magnificent clinic building, erected and owned by the doctors, the ablest of specialists along the various lines are in that building. Another building of eight stories is nearing completion, owned by one of the doctors, and on the eighth floor there is to be another clinic. And in that clinic will be excellent men. With the single exception of myself, we are all excellent men up there. A third clinic is already talked of. What does this mean? It means excellent work, I do not think there is any question about that. But I am afraid that in a little while the harmony of the profession in my city is going to be all shot to pieces. Already there are murmurings about the one clinic that we have. Those murmurings will be a tornado when we have three clinics, at least I fear so. Then again, I am afraid that there is going to be a tendency to send a man through the clinic for some little thing. Many of our patients know that they are all right, except as to a single condition, the patient knows almost for a certainty what is the matter with him—it is just some little thing. Will there not be a tendency, a temptation, to send those patients through the clinic? What are the people going to think of this after a while, and is it not going to react against our profession if we yield to the temptation to send men through the clinic when they ought not to be sent through—to examine his eyes, his ears, his nose, throat, and lungs, when everybody knows he has only the gonorrhea? There would be a temptation to do it, there isn't any question about it. And after a while, are not the people going to rise up

more than they do today and say the doctors are a bunch of grafters? The clinic has its splendid possibilities, it has also its grave dangers. It may be successfully worked out, but I am mightily afraid of the results in working out three clinics. It is something that requires sincere thought on the part of the profession, and from every angle.

DIAGNOSIS OF DISEASED GALL-BLADDER*

LAFE H. FRITZ, M.D., Dubuque

There is no organ in the abdominal cavity more often infected and more worthy of consideration than the gall-bladder. I add little indeed to the information given in any of the text-books, but I should like to take up a few points in the history, clinical characteristics and examination, which have been a help to us in arriving at a correct diagnosis.

History—Careful investigation has shown that the primary cause of gall-bladder disease is infection. Therefore, the history of previous illness is most important, especially such diseases as influenza, typhoid fever, pneumonia, or any other apparent foci of infection.

Microorganisms constantly enter the gall-bladder, directly carried to it by the blood, or indirectly by the bile, or by way of the common duct from the bowel. However, not all bacteria that enter the gall-bladder cause infection. Some other factors must also be present to cause a disease, such as any condition that will cause stasis of the bile in the gall-bladder, as the lack of exercise, obesity, or over indulgence in animal foods.

In the clinical characteristics I will discuss only a few of the outstanding symptoms—indigestion, pain and jaundice.

1. One of the first symptoms to manifest itself is indigestion. This is not a great aid in itself as there is not a single organ in the human body which may not be the source of gastric symptoms. But gastric distention and discomfort with the belching and eructations of gas, with some regurgitation three to four hours after eating—when the patient is not necessarily in pain—is a form of indigestion that we have found nearly always present and very significant in gall-bladder disease, with or without stones.

The amount of indigestion will depend upon the degree of infection and irritation of the gall-bladder, and adhesions between this organ and the

surrounding visera, such as the stomach, duodenum, the ascending and transverse colon. The adhesions may go on to cause complete obstruction of these organs, with their accompanying symptoms.

2. The symptom of pain in the epigastric region is usually present in a greater or less degree. This may be severe, lancinating, paroxysmal in character, or a dull ache. The location is often first in the epigastrium but if the patient has repeated attacks, some will sooner or later be located in the right hypochondrium. In typical and severe attacks the pain will be referred to the back and often the tip of the right shoulder blade.

According to M. C. Benet of Paris M. J. 1921, before the appearance of typical biliary colic we frequently have a number of symptoms that suggest the possibilities of gall-stones and diseased gall-bladder. Among them are frequent attacks of migraine, usually the typical hemicrania. If such attacks are due to biliary disease they are most apt to follow the excessive indulgence in food rich in fat and cholesterol.

3. Jaundice with the usual symptoms of bile intoxication, as slow pulse, itching of the skin, loss of weight, mental depression, and capillary hemorrhage from any wound, is found in history or examination of about one-fourth of all cases of cholelithiasis and occasionally in infected gall-bladder. It is due to the obstruction of the common duct and will clear up in a few days after the obstruction is removed.

Physical Examination—In physical examination the gall-bladder point, or point of tenderness, is situated within and slightly above the tenth costal cartilage in the angle formed by the outer border of the rectus abdominis muscle and the costal arch. Sudden pressure over this point will cause a sharp pain which is generally referred to the back. Only in exceptional instances will palpation over this point not induce the characteristic sharp pain for a more or less prolonged period of time during the interval between acute attacks.

A normal gall-bladder can not be palpated, and an enlarged gall-bladder can not be felt, unless it is stretched tight by its contents. Most diseased gall-bladders are small and contracted. Only in occlusion of the cystic duct and in carcinoma will the gall-bladder be enlarged. In the former the tissue is soft and yielding; in the latter fibrous and hard. Most enlarged gall-bladders are not tense so cannot be felt. When palpable, the organ feels like a smooth rounded pear-shaped tumor at the margin of the ribs, in the right nipple line.

Draining the gall-bladder with a Rehfuß tube

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will often be some help in the diagnosis. The technique we employ is much the same as that described by Lyons and Rehfuß. We have the patient fast for at least twelve hours. The mouth and teeth are thoroughly cleansed with potassium permanganate. A sterilized Rehfuß tube is then passed into the stomach and the contents, if any, removed by suction and examined. Eight ounces of distilled water are then given the patient to drink. The patient lies down on his right side and the tube allowed to pass into the duodenum by its own initiative, which it does in from one-half to one hour. If the patient is able to be up, its entrance into the duodenum is ascertained by use of the fluoroscope; if bedridden, when the fluid obtained by suction with Leur syringe is alkaline to litmus paper.

When certain that the tube has reached the duodenum an instillation of 50 c.c. of a 25 per cent warm sterile magnesium sulphate solution is instilled and followed by an injection of air. If the ducts are open, the bile will usually begin to drop freely from the tube within ten minutes; if not, suction by the Leur syringe can be used to start it. We found the bile alkaline in all of our cases, and, in cases of diseased gall-bladder and ducts, found bile to contain mucous, cholestrine crystals, epithelial cells, intercellular bacteria and leukocytes.

In the gastric analysis of a fasting patient we found hypo more often than hyperacidity. Lyons in "Oxford Medicine" mentions that bile is not discharged into the duodenum only when food enters the stomach and should not be present there in a fasting state. Even so, it can not find its way into the stomach except by regurgitation due to reverse peristalsis in the duodenum, which is most often the result of adhesions between the gall-bladder and upper bowel. Therefore, bile in the fasting stomach is suggestive of diseased gall-bladder.

X-ray—No one can doubt by this time the value of x-ray in diagnosis. But in gall-bladder disease it is not infallible, as only from 25 to 50 per cent of pathological gall-bladders can be demonstrated. The adhesions which form as a result of local peritonitis from infected gall-bladder however, produce evidence such as flattening or deformity of the duodenal cap, empty transverse colon, displacement of the stomach to the right or a high fixed position of the hepatic flexure. This evidence, when the clinical symptoms are present, is suggestive of diseased gall-bladder.

CHOLESTEROL

During the past ten years cholesterol has been the subject of many varied and extended investi-

gations. The cholesterol in the blood in gall-bladder disease we have found of interest and a help in diagnosis. Victor Meyers in his textbook says the cholesterol is decreased by a diet poor in lipoids and by occurrence of high temperature; and increased by a diet excessively rich in lipoids, by the presence of other diseased conditions, especially diabetes, arteriosclerosis, nephritis, during pregnancy and by the obstruction of the common bile duct. Since gall-stones are largely composed of cholesterol, it is reasonable to suppose that their appearance might be associated with any increase in the cholesterol content of the blood. Henes has maintained that this is the fundamental and primary factor in the formation of gall-stones.

It is logical to expect that in obstructive jaundice, the cholesterol content of the blood should be elevated, and bear a fairly definite relation to the intensity of the icterus. Rothschild and Felsner have shown, however, that in conditions associated with hepatic disorders the cholesterol of the blood is not increased, but usually reduced, while in so-called hemolytic icterus, there is no increase of blood cholesterol.

We have found an increase in blood cholesterol in all of our cases of diseased gall-bladder where the least obstruction and absorption was present. While the normal amount of blood cholesterol is 0.15 per cent to 0.18 per cent, we have found it in some of our cases of cholelithiasis with obstructive jaundice as high as 0.37 per cent. In one particular case where the blood was drawn by mistake shortly after the barium and buttermilk had been given for x-ray examination, the cholestral content was found to be 0.67 per cent. Two days later, when the error had been detected, examination showed only 0.30 per cent, showing that the buttermilk must have caused the marked increase in blood cholesterol.

DIFFERENTIAL DIAGNOSIS

Duodenal Ulcer—The pain in duodenal ulcer usually comes on periodically with a uniform relationship to meals, with symptoms of hyperacidity and the point of pain is lower in the epigastrium than in gall-bladder disease. An analysis of the gastric contents after a test meal, will often reveal blood in greater or less amount, with an increase in free and combined hydrochloric acid. The x-ray will also be of definite help in excluding ulcer.

Appendicitis—We have found that an adhesion between the ascending colon and gall-bladder will frequently simulate high appendicitis—a mistake in diagnosis which is easily made and often only

discovered on the operating table. In case of doubt, the laboratory and x-ray should be used.

Kidney Stone and Disease—Routine urine analysis and the location and radiation of the pain should leave little doubt in eliminating renal disease or stone. In case of doubt both kidneys should be catheterized and a pyelogram done.

Hepatic Disease—In hepatic cirrhosis, the stages of active and passive congestion of the liver which accompany, precede or herald in this disorder, or in the engorgement of cardiac weakness, the liver will be found enlarged and the type of pain duller and many times not felt by the patient until examined.

Syphilis—The syphilitic conditions of the liver and gall-bladder, and the gastric crises of cord disease, should be ruled out in all cases by a routine Wassermann.

Diseased conditions of the chest cavity, lobar pneumonia and diaphragmatic pleurisy, can usually be detected by physical examination. But angina pectoris may often simulate gall-bladder colic. The history of the onset following exertion or emotion is characteristic of angina and not of biliary colic.

In summary—we can not mention one point that is in itself diagnostic, but only by careful history and examination is diagnosis possible.

Discussion

Dr. S. A. Spilman, Ottumwa—The diagnosis of gall-bladder disease is one of the most important things we do. Having had some personal experience that was not pleasant, I feel that I know something about this subject, because I have no gall-bladder and I should not have had one as long as I did. I have been led to believe that one of the common causes of gall-bladder disease is typhoid fever, and I believe that infection from some source is usually the cause. When you get a real gall-bladder disease you are very apt to have indigestion. For a good many years I had spells of indigestion. The most important symptom of gall-bladder disease is indigestion, with pain in the stomach, therefore, one does not think of the seat of the trouble being in the liver, at least, I did not think of it. Another symptom is pain in the back, about two inches from the spine, and down about at the eleventh rib. In my earlier life I never was noted for being quiet, I was not obese, and I have no doubt that these factors are to be considered in diagnosing gall-bladder disease. I believe that many of our cases of rheumatism are from gall-bladder disease. Of course we know that there is a chance of making a mistake in differential diagnosis of appendicitis. But to my mind the diagnosis of gall-bladder disease depends not only on the pain, but largely on the history.

Dr. E. C. Junger, Soldier—It seems that only owners of once diseased gall-bladders are discussing this

excellent paper by Dr. Fritz, and it may be that the experience of having had a cholecystitis and gall-stones is no small asset to the patient if he happens to be a doctor. I was here before you last year feeling as well as most of you. A few days later, I got on the operating table without help and of my own free will without waiting for, or having had dyspepsia, gall-stone colic, jaundice, pain in the shoulder, or any of the text-book symptoms of gall-stones. For years I tried to convince all the best men in our profession that I was tired and must have tuberculosis, diabetes, nephritis, or some other thing; but no, I could not convince them. They dug out several teeth for me (good ones); removed my tonsils (good ones); took numerous x-ray plates of my abdominal contents (good ones); sent me from one specialist to another (good ones); the brethren did not neglect the use of percussion hammers, blood counts, inspections, manipulations and solar plexus punchings (good ones). But the truth would not out until one day when I got sick behind the ensiform cartilage—I had attended five confinements that week, ate many extra delicacies and drank much coffee while said labors were laboring; did much stooping over (all my people came from Norway and Denmark and they all use big feather-ticks on their beds) Selah! I went home and to bed. An old practical (?) nurse ordered me to drink some magnesium sulphate, as my case was plain biliousness; but the salts did not stay down and the liver did not clear up, and my own diagnosis of floating kidney was as bad as the rest of the guesses. I tell you, ladies and gentlemen, you can't always diagnose gall-stones by text-book symptoms not even on yourself, but, believe me, if you get enough of that concrete stored in your gall-bladder and ducts and they begin to obstruct or light up a low-grade infection, you know you have got something that makes you reach for your hypo and a quarter grain and before the next attack you implore some good surgeon to look in.

Member (question): What did you have in that belly?

Dr. Junger: A gall-bladder the size of a grapefruit filled with gravel and debris clear to the common duct where Dr. Mc—cut it off.

Member (question): How are you now, Doctor?

Dr. Junger: Not as well as last year! You may notice that I am quite deeply jaundiced, and, if we may venture another guess, would say that I have for the last two weeks had a number of attacks of hepatic colic, nausea, backache, frontache and sideache, due to the stone he left behind. If my present complexion and future plans are not too much interfered with by the indiscriminate use of the wrong advice or embalming fluid I will be glad to meet you again next spring.

Dr. Murdoch Bannister, Ottumwa—The essayist called attention to the fact that in gall-bladder trouble people eat meat, and he gave that as one of the causes of the condition. I believe he has the cart before the horse. These people do eat meat, we

have all observed that, but I believe they eat meat because it makes less trouble in digestion than do fruits and vegetables. I have serious doubts as to whether the eating of meat causes gall-bladder disease. It seems to be *post hoc*, but not *propter hoc*.

Dr. Walter L. Bierring, Des Moines—My point in this discussion would be that the diagnosis of gall-bladder disease largely depends on the clinical history of the symptoms. I feel that a great deal of dependable evidence can be obtained by a carefully connected history, taking into account the periodicity of distressing attacks and excluding by every possible means the involvement of the stomach, either functionally or in an organic way, and determining the presence of any intestinal disturbance by the fluoroscope and otherwise, and thus gradually, by careful consideration of the digestive distress, the time it occurs and the relation it bears to meals, these factors will often help us more than any of the special examinations. I have never yet gained any aid from the fluoroscope or x-ray plates with reference to the presence of gall-stones or of inflammatory disorder of the gall-bladder, unless there was a very marked change in the form of adhesions, deformity of the duodenal canal or in the colon. The other point to be considered is the difficulty in relating the painful symptoms to the gall-bladder. Of course a gall-bladder colic or a biliary colic is sufficiently distinctive, and when this is followed by jaundice attended by symptoms of inflammation there is very little difficulty in diagnosis. But acute pain developing in the gall-bladder region is so frequently associated with a chest condition that I am sure these conditions are frequently overlooked. Very often we miss a pleurisy, particularly in these times of influenza, a pleuritic exudate seems to develop abruptly. Also in the development of acute pneumonia we frequently mistake a gall-bladder condition for a real acute chest condition. All of you have, I am sure, had the uncomfortable experience of diagnosing gall-bladder disease when the condition was really an acute thoracic condition. Lastly, it seems to me we have to determine when a gall-bladder disease is surgical. The title of this paper is "Surgical Diagnosis of Gall-bladder Disease." As an internist, I had some difficulty in interpreting that title. I presume it means the diagnosis of the condition at the time of operation. In gall-bladder disease the question in my mind always is, when should the case be referred to the surgical service? The principal indications are obstructive jaundice, recurring attacks of pain, and a distended gall-bladder. Often there is great difficulty in determining the degree of inflammation that is present in a distended gall-bladder. We are often misled by the blood count, by the absence of fever, when really a gangrenous cholecystitis is developing. So it seems to me that in all border-line conditions like this, very careful consideration should be given to the history, the development of the process, the local phenomena, and then to determine definitely whether a case of

gall-bladder disease is surgical or not. I have had but a limited experience with the duodenal tube and introducing the magnesium sulphate solution, so I cannot properly discuss this phase of the paper.

A Member—Thus far the discussion has all been on the symptoms of gall-bladder disease. As to these poor wretches who have had their gall-bladder removed, I think they know the entire list of symptoms of gall-stones. I want to say that I have several scores of patients with large bags of gall-stones that we have found when doing some other abdominal operation, and they never suspected they had gall-stones. Also, some of them have gone twenty years since that operation, at which time it was not deemed advisable to take out the gall-bladder because we had enough to do lower down. Scores of those people never had any idea they had gall-stones and haven't had up to this time, and yet they went twenty years without symptoms of gall-stones. They never have had indigestion, they never have had anything but gall-stones, and they don't know that. I want to say that no one with gall-stones will ever complain of symptoms due to the gall-stones unless there is inflammation of the gall-bladder. That is the secret of the whole thing. So we had best talk a good deal more about cholecystitis than about gall-stones. Of course there has been at some time an infection which caused the formation of gall-stones, but after being formed, unless there is inflammatory trouble in the gall-bladder, the patient never will find out he has gall-stones. And there is a large number of these people. You who have done abdominal surgery and are not willing to risk the patient's life by too much surgery, have left many cases that have gall-stones and in some of these you have done a secondary operation. Many of these patients are just as well as before they had gall-stones unless you tell them the true condition, when you will have trouble and it will be necessary to do a secondary operation.

Dr. C. F. Wahrer, Fort Madison—The prominent disease in this world is dyspepsia. It doesn't do anything to me because I figured long ago that many dyspeptics, so-called, are having either gastric or duodenal ulcer, and the balance of them gall-stone trouble. Dr. Junger believes that people with gall-bladder disease do not have dyspepsia or indigestion. The majority of them have. It is the man Friday with the Crusoe gall-bladder or ulcer. Recently a physician, who was himself sick at the time, requested me to make a post-mortem in the case of his sister in an attempt to verify the diagnosis of cancer in the thoracic region. When that problem had been fully answered I thought I would look around and see what else I could find. She had been a patient of mine and had complained a great deal of indigestion for which she took the different home remedies: I opened the gall-bladder and found thirty-three gall-stones very nearly all the same size, about as large as a hazelnut with lots of corners on them. Aside from the history of indi-

gestion now and then she never gave any symptoms. But the majority of people with gall-bladder disease, with or without stones, have associated with it more or less indigestion, and for that reason a great many cases of gall-bladder trouble go undiagnosed. In the majority of cases with a surgical diagnosis, or with the other man's diagnosis (I never could distinguish between the two)—they will be well enough diagnosed, but the diagnosis is not accepted because it associates itself with an operation, and so they go on with a dyspepsia. I think the medical profession should be a little more positive in regard to diagnosis even though not absolutely sure. We are not absolutely sure of anything (see Cabot's book on Diagnosis), but usually we are reasonably sure. If an appendicitis, you express an opinion. It must be an opinion given with some positiveness in order to make your patient understand that something has to be done for the relief of a trouble which, without interference, may keep on for fifteen to thirty years without relief. May I suggest that many cases of gall-bladder disease, which usually is fairly easily diagnosed, go undiagnosed principally on account of the fact that a great many medical men who do not use the knife themselves are unwilling to give the case to the surgeon. That is quite an arraignment, but I have to make it nevertheless—many diagnoses are not made because the attending physician is unable to do the operation and is unwilling to hand the case over to a man who can do it. Nearly every positive case which you know is gall-bladder disease, has some indigestion, a little colic the same as appendicitis, but higher up. And do not forget that these conditions are associated and if you do not operate on both of them you will have trouble later on. A patient was operated on for appendicitis, and scarcely a week had passed when he also had to be operated for gall-bladder trouble, since which time he is well. These two are often associated. Make a diagnosis. You can do it if you take the pains, if you have plenty of literature, if you study the symptomatology. The poorest of you can make a diagnosis if you are in earnest and if you study your books. When in trouble I get all my books out and begin to read one after the other, and before I get through I have the diagnosis. A diagnosis must be made in these conditions, and the man who cannot diagnose gall-bladder disease ought to come to the meeting of the State Society and learn how. However, this is the man who does not make use of the opportunity that is due him and his patients.

Dr. Donald Macrae, Council Bluffs—I have been coming to the meetings of this society for the past twenty-five years and it seems to me we have the same old discussions every year. Of course we have new methods, of diagnoses good and bad which have influenced our final discussion. I did not hear much of the paper and can hardly discuss what the essayist said, but I do feel that we have several kinds of gall-bladder trouble with several kinds of symptoms. I

think the case of Dr. Junger was an acute obstructive condition, a retention cyst or empyema of the gall-bladder. In a large number of so-called chronic indigestions I think there is a low-grade cholecystitis with or without stones responsible for the symptoms. Some of the symptoms simulating gall-stones are due to syphilis, and, if we are able to recognize them, the patient gets well under proper treatment. I have seen several cases operated for gall-stones, diagnosed because of the colic, with negative operative finding which later showed 4 plus Wassermann and relieved by syphilitic treatment. Therefore it seems to me that first of all we should seek to make the diagnosis by exclusion. As Moynihan says, 25 per cent of supposed gastric ulcers are gall-bladder disease. So it is a question of exclusion. If we use the x-ray we try to find out whether the patient has gastric ulcer, and if the result is negative we may exclude that etc., etc. And finally when all else fails, let us resort to the exploratory incision.

Dr. H. J. Prentiss, Iowa City—Perhaps a small contribution in relation to my work in the laboratory might be worth while. I have found two anatomical peculiarities about the gall-bladder, one of which is, that one-half of 1 per cent of my cases have shown the common duct opening into the duodenum separately from the pancreatic duct. We blow the pancreatic duct and the biliary tract up with air, when we may very readily determine what the condition is, and I should say that in about one-half of one per cent of cases the common duct opens into the duodenum without any connection with the pancreatic duct. The other peculiarity is this: I have one case in which the cystic duct joins with the hepatic duct and the hepatic duct is divided into two ducts, so that we have one duct draining directly from the liver and one in which the cystic duct passes down. The two divisions of the hepatic duct unite to form the common duct. I mention this because they are such marked variations that they might sometimes modify the diagnosis.

Dr. Fritz—Infection and stasis of the gall-bladder must have taken place before you have the stones. The use of the duodenal tube is merely a help in determining whether or not the common duct is open, and character of bile excreted.

NOBEL PRIZE

The Nobel prize for the greatest advancement in medicine goes this year to Drs. F. G. Banting and J. R. McLeod of Toronto, for their discovery of insulin. Each of the discoverers divides his share with his assistant, thus bring each assistant a handsome sum of money and proper recognition of his work. Dr. McLeod's assistant is Dr. J. B. Collip of the College of Physicians and Surgeons of Alberta; and Dr. Banting's assistant is Dr. C. H. Best of Toronto. The total prize money is \$40,000. The discoverers have refused to accept any profit from the manufacture of insulin.—*Journal-Lancet*.

TRIFACIAL NEURALGIA, ITS SYMPTOMS, DIAGNOSIS AND TREATMENT*

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Trifacial neuralgia is a disease of the gasserian ganglion which is permanently relieved by division of the sensory root. The symptoms accompanying the condition may be differentiated distinctly from those of other neuralgias. Rather mild attacks of short duration begin during middle life, but increase in severity and duration. There is no permanent spontaneous cessation of pain, and the condition cannot be relieved without the institution of surgical procedures. In the treatment of 505 cases in the Mayo Clinic we have learned that the deep alcohol injection and the avulsion of peripheral branches offer palliative relief, but it is necessary to divide the sensory root of the gasserian ganglion to secure permanent relief.

Certain writers believe that trifacial neuralgia is due to ascending neuritis from dental caries; others, that it is due to a degenerative change in the gasserian ganglion; and still others that it is due to sclerosis in the ganglion. In opposition to these views, other observers believe that none of these conditions exist, since it has been impossible to demonstrate them, either grossly or microscopically. It would seem logical to assume that trifacial neuralgia is the result of infection of the ganglion or of infection elsewhere in the system. As I have observed the disease it has been associated with multiple sclerosis, intercostal neuralgia, sciatic neuralgia, and with syphilis of the central nervous system. I have had patients under my care, who had more or less constant neuralgic pain in the ophthalmic branch following herpes ophthalmia, who were relieved by a division of the posterior sensory root. On the other hand, I have never seen patients with trifacial neuralgia cured by the removal of foci of infection; yet I believe that it may be assumed that the disease is the result of previous infection, since infections have been demonstrated in the ganglion in cases of intercostal neuralgia associated with, or following, herpes zoster; since multiple sclerosis is supposed to be due to an infection, and also because the central nervous system changes of syphilis are the result of *treponema pallidum*.

SYMPTOMS

In many instances trifacial neuralgia occurs much earlier than middle life, and it often occurs later in life. The attacks at first simulate toothache, and it is not uncommon for the patient to go to his physician and complain of a tooth or a sinus, feeling quite positive that if the local trouble is removed, the pain will subside. His disappointment comes when the attacks of pain continue even though one or more teeth have been removed or a sinus drained and irrigated. Pain is brought on by external irritation, such as washing the face, cleansing the teeth, chewing, swallowing, talking, and even exposure to air currents. The pains occur at first only during the day, not at night unless the patient awakens, and differ from pain caused by infected teeth or by a sinus, which remains more or less constant regardless of sleep and which, generally, prevents sleep. Trifacial neuralgic pain is described as sudden, severe, sharp, shooting, lancinating, excruciating pain; some patients compare it to an electric shock through the face and others describe it as similar to a red-hot poker jabbed into the cheek or jaws. The pain is of short duration, lasting from a few seconds to a minute or two, and during the paroxysm the face and eye may become congested; tears overflow, and the patient goes into all sorts of contortions in an effort to obtain relief. Many patients, chew, rub their face, stoop forward and press their cheek during an attack.

There are trigger zones associated with the onset of the attacks; for instance, a patient may have neuralgia of the superior maxillary division with a trigger zone on the chin, which, if touched, will start the paroxysm in the maxillary division; or in another case, the trigger zone may be at the angle of the nose for a mandibular division neuralgia. The condition is more prone to occur in the third and second divisions than in the ophthalmic division. At first only one branch is involved, but, as the disease progresses, the other branches, including the ophthalmic division, are affected; however, the ophthalmic division is not so commonly involved as are the superior maxillary and mandibular divisions. In one case of double neuralgia the trigger zone was on the opposite side. Usually only one side of the face is affected, but occasionally (in about 3 per cent of cases) both sides are affected, with a history of more severe pain on the side on which it began, there being comparatively short periods between the onsets. It is noteworthy that patients who have suffered for several years from unilateral neuralgia will not develop the condition on the other side.

*Read before the Inter-State assembly of the Tri-State District Medical Association, Peoria, Illinois, October 30, 31, and November 1 and 2, 1922.

REPORT OF CASES

A review of the records at the Mayo Clinic, shows that 505 patients (275 males and 230 females), suffering from trifacial neuralgia have been observed since 1910. Three hundred twenty-seven of the patients had pain only on the right side of the face; 167 on the left side only, and eleven had pain on both sides. The youngest patient seeking relief was twenty-two years of age, the oldest eighty-three years. The average age was fifty-four and one-half years, and the average duration of symptoms was approximately eight and one-half years. Twelve patients also had chronic nephritis, nine had diabetes, eight had syphilis, fifty-one had symptoms referable to cerebral arteriosclerosis, thirty-one had sclerotic changes of the brain and cord, forty-one had migraine, one had intercostal neuralgia, and seven had sciatica.

In three patients the ophthalmic division alone was involved; in eighty-three, the superior maxillary division alone; in 107, the mandibular division alone; in forty-four, the first and second divisions; in four, the first and third divisions; in 181, the second and third divisions, and in seventy-seven, the first, second and third divisions. No record was made of the division involved in six.

During the course of treatment of these patients 1570 injections of alcohol were administered, an average of three and one-half injections for each patient. The average period of relief from pain was seven and seven-tenths months. Besides the injections of alcohol, 122 avulsions of peripheral nerves were performed for palliative purposes; teeth were removed from 226 patients, and palliative operations on the nose, throat, and mouth were performed on fifty-one. The total palliative measures instituted either by referring physicians or in the Clinic were 1969. Aside from temporary relief following the injection of alcohol and avulsion of the peripheral nerve, very little has been accomplished, despite the large number of palliative operations performed. No material relief was obtained from the removal of teeth nor from the fifty-one operations on the nose and throat; in certain instances the attacks subsided, but these periods of relief were possibly coincident with the natural interval of quiescence common to the disease, since the neuralgia returned with its usual regularity. Injections of alcohol and avulsion of the peripheral nerve, if properly carried out, will break the attack and prolong the quiescent period.

With the institution of the radical operation, or division of the fibers of the posterior sensory

root, the patient is instantly and permanently relieved. The radical operation has been performed in the Clinic in 208 cases, and alcohol has been injected in 297; this group represents many patients who came for treatment prior to the encouragement of the radical procedure, patients who were too feeble to stand the shock which surgery involved, and patients who, while under observation, were advised to have two or three injections before submitting to the radical operation. Of the patients who were subjected to the radical operation, one was nephritic, four were diabetic, three syphilitic, twenty-three had cerebral-sclerosis, eighteen had sclerosis of the brain and cord, twenty-nine had migraine, and three had sciatica.

Of the 208 operations performed, one was a Hutcheson operation; fifteen were ganglionectomies; forty-two, avulsions of the entire posterior root; twenty-two, division of the sensory root by partially cutting and partially avulsing, and 128, cutting the root on the crest of the petrous bone. The motor root was preserved in the last twelve patients operated on. I have more recently operated on twenty additional patients by cutting the sensory root and preserving the motor root. Personally, I believe that the ideal operation for trifacial neuralgia is cutting the root on the crest of the petrous bone, and preserving the motor root, as no more time is required for this procedure, and paralysis of the pterygoid, temporal and masseter muscles is prevented. I have personally operated on 190 of the patients in the series reported, including three instances of recurrence. These three patients were among those operated on during my first year in this work, when the technic of avulsing the posterior root without the aid of the illuminated ganglion retractor was used. At the second operation, it was found that the sensory fibers had been left, accidentally. Such a possibility was eliminated with the introduction of the illuminated ganglion retractor, inasmuch as the retractor exposes the ganglion, the posterior root, and the dural opening on the petrous bone, as well as all of the areas involved.

Besides the 208 cases, there were five atypical cases of neuralgia in which the posterior root was divided. Two of the patients had pain following herpes ophthalmia; both were relieved by operation. In one instance the posterior root was partially divided and the ganglion and the third branch were resected, without relief from pain. In two instances the posterior root was divided, without subsequent relief.

One hundred seventy-six of the 208 patients

were relieved instantly; twenty-two were relieved from pain, but were not relieved completely from symptoms, and the administration of nerve sedatives and a symptomatic treatment became necessary. However, all of these patients, except four, became well subsequently. Two of the four complained of pain in the eye, and two had syphilis of the central nervous system. The factor of especial interest in this group of twenty-two patients is that the severity of the neuralgia had deranged the nervous system.

The mortality associated with operations for trifacial neuralgia is not so great as that with abdominal surgery. In many instances, patients operated on for trifacial neuralgia are more than sixty years of age. Of the last 116 patients operated on at our Clinic, three died; death was due in one case to diabetes, and in the other two to cerebral arteriosclerosis. One developed hemiplegia on the side operated on, with thrombosis of the vessels and softening of the brain on the opposite side; the others passed into a stage of coma from which they did not recover.

Records have been quoted of a large number of patients operated on without a fatality, but I believe that greater surgical risk, involving a mortality of 2 per cent, is warranted if the patient is suffering from neuralgia which cannot be relieved by either alcohol injection or peripheral nerve avulsion.

In view of the experience in the Clinic and that of other surgeons, it is quite generally accepted that the radical treatment of trifacial neuralgia, the division of the sensory root, is the operation of choice for the attainment of an instant and permanent cure. For patients in whom the condition has not long been present, and cases in which the diagnosis of trifacial neuralgia is uncertain, I believe that the deep alcohol injection should be employed for one, two, or three injections. It should also be employed for patients who can not stand the surgical risk involved in the radical operation, such as the very aged and feeble patients, and those suffering from severe cardiac or renal disease.

The radical operation has been regarded as very dangerous and hazardous on account of the possible hemorrhages, trauma to the brain, ocular palsy, trophic keratitis, facial paralysis, and motor paralysis of the pterygoids, temporal, and masseter muscles. With the present technic, hemorrhages rarely occur and, if they do, they can be controlled by ligation of the middle meningeal and the use of special instruments and cotton pledgets.

In my early experience, trauma to the brain following rents in the dura was not uncommon,

owing to the cumbersome instruments that were employed, but we are now able to elevate the dura with the temporal lobe and to expose the ganglion and posterior root without causing any particular trauma. Ocular palsy was the result of the heavy instrument and the use of cotton sponges, which produced pressure on the third, fourth and sixth cranial nerves, but with the present illuminated retractor the dura is held taut without causing pressure on these nerves.

Trophic keratitis occurs occasionally, but rarely following operation; it is generally caused by abrasions of the cornea due to the entrance of foreign bodies. Precaution against immediate postoperative keratitis is taken by avoiding trauma to the ophthalmic portion of the gasserian ganglion during operation. Facial paralysis develops occasionally, regardless of the technic employed or the care exercised by the surgeon; we have all had the experience, after operating on long series of patients without the development of paralysis, of having one unexpectedly develop without known cause. It is consoling to know, however, that facial paralysis is, as a rule, only temporary, and disappears spontaneously; it is imperative, of course, that the cornea be protected during this period. Motor paralysis of the pterygoid, temporal and masseter muscles following the avulsion or the division of the entire posterior root can now be avoided by isolating the motor branch from the sensory fibers before the division of the sensory root. On division of the sensory root posterior to the ganglion, the patient will experience immediate relief from pain, but will also experience numbness of the face and eye, and along the margin of the tongue. This is very annoying at first, but it is merely a more extensive numbness of the type that is experienced following successful injections of the peripheral branches with alcohol. Therefore, it is well to administer two or three injections prior to the radical operation, so that the patient will become accustomed to the unpleasant sensation before the root is divided. After having one or two recurrences of the neuralgic pain, patients as a rule gladly accept the numbness in exchange for the spasmodic excruciating lightning-like pain incident to the disease.

SURGICAL TECHNIC

In preparing the patient for the radical operation, it is necessary to shave only a small area of skin over the temporal region. The incision is made in front of the ear, extending upward and backward from the zygoma; the lower point of the incision is situated 1 cm. in front of the tragus

of the lower margin of the zygoma, and the upper point 5 cm. above the helix of the ear. The temporal fascia is also incised for a distance of 5 cm. in each direction at right angles to the incision along the upper margin of the zygoma, before the muscle is incised. This is followed with a trephine opening in the skull, enlarged to a diameter of about 3 cm. It is well to enlarge the opening in a downward and inward direction so that the approach will be directly inward along the floor of the middle fossa. The dura is elevated, the middle meningeal is ligated, and the third branch identified. The dissection is carried upward and backward, elevating the dura from the arachnoid, which is attached to the ganglion, but which is free from the posterior root fibers. As the dissection is carried up over the posterior root, the arachnoid is seen to pulsate, owing to the cerebral pulse. The arachnoid over the posterior root fibers is then opened by a small, sharp, right-angled knife, after which all the sensory root fibers in the posterior margin of the ganglion are exposed. The motor root lies underneath the sensory root on the mesial side until it approaches the gasserian ganglion, when it takes a fairly abrupt turn and passes obliquely downward and outward underneath the gasserian ganglion through a separate sheath of the third branch into which it diffuses.

Before dividing the sensory root fibers the motor root is brought into view and preserved during the division of the sensory root by gently elevating the posterior margin of the ganglion and partially rotating the sensory root outward from the mesial side. The assistant holds the illuminated retractor, and the surgeon uses one hook to elevate the ganglion and the other hook partially to retract and rotate the sensory root. The motor root lies underneath the sensory root and ganglion, and takes a downward and outward course, rather than following the posterior root fibers to the ophthalmic portion of the ganglion. As soon as the motor root has been isolated, the sensory root is divided with a sharp, small, right-angled dissecting knife. Care should be exercised, before closing the wound, to make sure that all of the sensory root fibers have been divided and that all bleeding has been controlled; if necessary, a small iodoform gauze pack should be used, to be removed in from twenty-four to forty-eight hours. The muscles, fascia, and skin are closed in layers. Aside from the application of ice-bags to the head for two or three days, for the comfort of the patient, the postoperative care is practically the same as that in general surgical cases. During the operation, the eyelids are closed with a strip

of adhesive, which is removed after the patient has recovered from the anesthetic; the eye is then covered with a Buller's shield to avoid abrasions or unnecessary rubbing during the immediate convalescence. On dismissal, the patient is advised to wear close-fitting goggles when out in the dust, wind, or snow, for about twelve months, as a precautionary measure against the entrance of foreign bodies into the eye or abrasions to the cornea. He is also advised to irrigate the eye twice daily with 2 per cent solution of boric acid, to wash out any small foreign bodies that may have entered the eye during the day or night. From ten days to two weeks, usually, are required for the surgical convalescence, and, aside from protection of the eye and general postoperative surgical attention, no special care is necessary.

CONCLUSION

Trifacial neuralgia is a much dreaded disease and one that is not cured without surgical procedures; fortunately, however, it can be relieved palliatively and permanently. While the relief from pain necessarily creates anesthesia of the face, it does not disfigure the patient nor impair his health, and he gratefully accepts this in place of the suffering, which incapacitates the patient and often results in permanent invalidism. Since the mortality is low, the patient should be advised to have the radical operation after two or three injections of alcohol for palliative purposes.

SURGICAL JUDGMENT*

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To an audience made up of representatives of all the different departments of medicine, it seems hardly fair to present a purely surgical paper, which would appeal to but a small percentage of the listeners; and I have, therefore, determined to attempt to give you what would seem to me should be the characteristics of a surgeon of today and discuss his relation to the rest of the body medical.

No attempt will be made to indicate to you the great advances made in surgery during the past fifty years and its consequently greatly increased field. Those of you who graduated thirty years ago have witnessed the steady growth of the surgical domain and those of you who received your diplomas more recently are familiar with the history of it. With this change in the field of his activities, there must have been a change in the

*Read before Tri-State Medical Association, Iowa, Illinois and Wisconsin.

surgeon himself, and the surgeon of today and tomorrow must come to his work with a far wider knowledge and training than his predecessor of a generation ago. Formerly a practical knowledge of anatomy, a poorer one of pathology and a certain facility with his hands, together with a fair judgment as to when and how to use them, were considered sufficient to enable one to style himself a surgeon. No such equipment today would inspire sufficient confidence, even in the laity, to enable one to obtain recognition.

Surgery, like all other specialties in medicine, is best practiced by the man who has had the broadest kind of foundation in the basic sciences of anatomy, biology, physiology, chemistry and pathology, and who is familiar with the work being done in other fields of medicine. It is of course true, and it goes without saying, that he must possess dexterity and have developed a proper surgical technique, but these are the essentials most easily acquired.

"Surgical judgment" is an expression familiar to you all and is considered by the wise the highest compliment that can be paid a surgeon. It is supposed by some that this comes with years, that it attaches itself almost unconsciously to the man doing surgery constantly over a long period and that it is not a thing which can be taught or learned early. Let us entertain no such erroneous idea of this finest of qualities in a surgeon. This judgment does not rest on the number of operations performed or the years during which they have been done, but rather on the knowledge one has of normal physiological processes, of pathology and of general medicine. Experience, it is true, is the greatest of all teachers, but what is experience? It certainly is not simply time spent in an occupation or the amount of product turned out in a certain number of years; it is, I take it, the ability to observe, to estimate at their proper value the things observed, to consider them in relation to established laws and to remember them. It is also important to develop a philosophical mind and to pay constant attention to medical literature. The surgeon, who is so busy operating that he has not time for the proper pre- and post-operative study of his cases and who is too busy to read and to see the work of others, is a man of limited experience, however occupied he may be in the actual performance of operations. The man who has removed the greatest number of colons may be the best man one could have to remove his colon, but he might, if he does not possess the kind of surgical judgment we have in mind, at the same time be the worst man one could choose to determine whether his colon

should be removed. This type of illustration might be applied to any field of surgical activity. I have only taken the colon as it has been much in the professional and lay mind in recent years. My own judgment would be that the removal of the colon to cure constipation is comparable to the removal of the ovaries to cure dysmenorrhea. How the fad of oophorectomy to cure all female ills survived so long is hard to understand. One can imagine the success of an attempt to popularize the analogous operation in the male! It is true that the normal testis has recently been removed, but only to be transplanted into a new and sterile field where it is hoped it would retain its fertility and give its host a new virility. But this is a long cry from the removal of both testes to cure backache.

The modern surgeon is exposed to temptations that he of fifty years ago did not know for now-a-days with a fair technique and an aseptic habit nearly any operation can be done without fear of a fatal infection. It is this degree of safety which exposes us to the danger of falling into the habit of doing unnecessary operations and developing a fad for doing a particular operation in the absence of proper indications, just because we do it well and with no mortality. A peculiar facility in the performance of an operation puts a surgeon too often in the category of the proverbial doctor who was "hell on fits."

The mere development then of the ability to perform certain operations with a fair degree of safety and the constant performance of them does not alone constitute experience, nor does it possess one of surgical judgment. To the ability to do the operation must be attached the knowledge which permits one to determine the indications for it in the individual case.

It is far more important to teach the student of medicine differential diagnosis, the indications for and against operation and to inculcate in him the diagnostic habit rather than to teach him the steps of operative procedures, because he naturally practices what he is taught. This admonition does not apply alone to those engaged regularly in teaching students, but to everyone having younger men working under him as internes and assistants, every such person is a teacher and is often the one who is listened to and observed with much more interest and attention than the man occupying a "teaching position." Every hospital surgeon should consider himself a disseminator of surgical knowledge, not a simple demonstrator of surgical technique. Many a young man's promising future in surgery has been thwarted by the careless methods employed by the man under

whom he has served as an interne or an assistant. These young men should be taught surgical judgment and should be encouraged to observe and record their observations, to exercise in every case under their care the knowledge which they are supposed to possess. If this is not done they naturally in most instances become careless automatons doing operations perhaps well, but regardless of conditions, taking out appendices to cure duodenal ulcer, doing gastroenterostomy to cure the gastric crisis of tabes, removing hemorrhoids for cancer of the rectum, performing Cesarean sections to save labor pains, removing colons to cure neurasthenia, plating fractures that need no plating, etc., etc. Such surgery and such surgeons do nothing to advance even the art, let alone the science, and do much to discredit real surgery.

The modern surgeon must be a diagnostician. The late H. C. Wood said the difference between a surgeon and a physician was that the one worked with his hands and the other with his brains. If this were ever true, it is not true today and it must not be true tomorrow. Medicine can only be advanced by the working together of the internist, the surgeon, the chemist, the pathologist, the physiologist and the roentgenologist, and each must work with his brains as well as with his hands; each in weighing facts and drawing conclusions must use all the knowledge he has and can obtain from others.

A diagnostic habit and ability must be early established and regularly enlarged by the would-be surgeon of today. Most of the mistakes we surgeons make result not from a lack of knowledge, but from a failure to use it. How many of us have not looked back with shame and chagrin at the removal of a primary malignant growth in the presence of a metastasis, the existence of which a careful examination or an x-ray study would have revealed. Or how easy it is to fail into the habit of doing "exploratory operations" to find out what a little study or the exercise of a little knowledge would have shown us.

The modern surgeon must not enlarge, but rather curtail his list of emergency operations, that is, those done without a careful study of history, of signs and symptoms. A diagnosis should be made if possible and a relative diagnosis, if a positive one is impossible, and the reasons for it given. Hemorrhage and obstruction of the air passages stand nearly alone as indications for immediate operation. Never to worry one's mind about the diagnosis but simply to "open and see" often means unnecessary operations and does nothing to develop one's surgical judgment and

enlarge one's experience. To make a wrong diagnosis is better than to make no diagnosis at all. If a young surgeon would write down his diagnosis, his basis for it and his reasons for operating in his first two hundred cases, and then his findings and results, he would possess more surgical judgment and experience and be a better surgeon than the man possessed of the same knowledge and same operative skill, who performed a thousand operations without this exercise of his brains.

Mark Twain said if one did not open his letters until two weeks after their arrival, only one out of ten would require an answer; if one studies his cases before operating he will certainly operate upon fewer and he will greatly reduce his surgical errors. It is the inexperienced surgeon or occasional operator who takes risks, and yet he is the last one who should. The difference in the mortality rates of certain clinics is not due to unusual skill or to the selection of cases, but to careful study and preparation. The time to obviate post-operative complication is before the operation.

I believe a survey of the recent contributions to surgical literature from the hands of men of recognized ability will show distinctly a tendency toward the development of surgical judgment. A notable example is to be found in the surgery of the breast. The man who removes a breast in a young woman for a benign tumor is not saving her from a cancer death, but is doing an unnecessarily mutilating operation, when a simple one would have relieved the patient of her trouble. I should like in this connection to endorse and emphasize the following paragraph from a recent paper by Peck and White (*Annals of Surgery*, June, 1922); "We have long believed that unnecessary mutilation by the performance of radical operations for these distinctly benign conditions was unwarranted, and speaks for lack of ability or confidence in diagnosis by the surgeon, rather than consideration for the future comfort and safety of the patient."

The removal of certain diseases from the category of those requiring extensive, mutilating and dangerous operations and the putting of them in the class which can be cured by simple and safe methods represents real surgical advance. Take for example the so-called myeloid sarcomata of the long bones for which amputation was considered, until recent years, the proper treatment and compare this operation with the simple removal of the growth which recent study has shown to be quite sufficient, as the tumor is really not malignant. Again think of the amputations and the resections of joints in our civil war

and then of their comparative rarity in the recent great war.

And I would cite one other recent example of surgical advance and the exercise of surgical judgment. Up to the time of the great war there had been developing for years a tendency to operate upon and plate most simple fractures, a pernicious tendency which it seemed nearly impossible to stem, but with the enormous experience afforded by the war it was easily shown that this method of treatment should be greatly curtailed and we passed back to the use of our brains and revived the mechanical and anatomical knowledge in the treatment of fractures which, for a time, many of us had lost in our craze to apply a plate. There are enough fractures requiring open reduction without operating on those which do not need it. I should like too to suggest in this connection that open reduction need not necessarily be followed by a plate or other device, and the surgeon must have the judgment to determine the necessity for this second step and the courage to avoid it, if deemed unnecessary.

Before a surgeon undertakes the operative treatment of fractures, he should have learned by experience and by reading what nature herself can do, if only given a little intelligent help; what she can do alone, as is shown in the rare instances of non-union in animals like the dog and the birds; and how she is apt to lay down on her job when the matter is taken entirely out of her hands by the absolute mathematical immobilization of the fragments by a plate. I should like to emphasize three things said by Doctor Dodd in his communication. First, that the plate is a cause of delayed union and sometimes of non-union, and his skiagrams illustrated this. Second: that plates should be removed when they have produced enough fixation to allow their removal without disturbance of the position; and third; the great importance of early motion of neighboring joints and muscles. We would all, who work in this field, do well to go back a generation in surgical literature and read Lucas-Championniere and study his method of mobilization in the treatment of fractures. This field is one of the best in which to cultivate and develop surgical judgment.

The surgery of the future is not going to rest on further development of surgical technique or the invasion of new fields, but on an increased knowledge of disease, its causes and manifestations, and the men who are going to advance surgery are those who learn early in their careers to use their brains as well as their hands, and who make their brains direct their hands.

The day is passed, if it ever existed, when a surgeon must do a certain operation at the request or direction of another and the surgeon of today who operates for any other reason than that he believes the operation indicated, after a careful study of all the facts and evidence, or who operates on the judgment of another, becomes a menace to society, a disgrace to surgery and a man without the respect and confidence of those who are able to judge ability. A surgeon must be courageous enough not to fear the charge of timidity, when it is based on the exercise of surgical judgment.

Self-satisfaction, which is always based on a lack of knowledge and experience, is a dangerous characteristic in a surgeon, especially a young one, for it usually means arrest of development. It is only dissatisfaction with one's accomplishments which stimulates him to effort. Self-confidence in a surgeon is, however, an asset and does much to help him through difficult situations and to devise new methods.

In conclusion I would suggest that the surgeon who does an unnecessary or wrong operation should be obliged to look after the patient for the rest of his or her life and not be permitted to turn the patient over to the long suffering family physician. If this plan could be put into practice and if all surgeons studied their mistakes and their ultimate results, surgical judgment would be a common characteristic and surgery enormously advanced.

THE IMPORTANCE OF EARLY TREATMENT OF CHRONIC NASAL CATARRH OR CHRONIC INFLAMMATION OF THE NOSE PROPER*

J. K. GUTHRIE, M.D., New Hampton

Nasal catarrh is seldom given the consideration due it. On the other hand it is no unusual thing for the doctor who is consulted to prescribe without an examination of the diseased organ, or even to acquiesce in the patient's uses of their own remedies or patent medicines.

This condition when neglected as usually occurs, is very apt to cause several of the following results, as well as others not mentioned here, and sure to cause some of those mentioned.

First—Great discomfort and annoyance to the patient or disgust on the part of his associates. We have all seen these patients hawking and spitting and have been near enough to cases of ozena.

*Read before the Austin Flint-Cedar Valley Medical Society, New Hampton, Iowa, July 11, 1922.

Second—Anemia or general systemic depression or both, due to an abnormal exchange in the lungs of oxygen from the improperly prepared air and carbon dioxide from the blood. This abnormal exchange results in impoverishment of the blood and consequent faulty and insufficient metabolism; then we have too much work for the excretory organs thus poisoning the system with both imperfectly prepared non-assimilable nutrients and retained product normally excreted. Anemia, loss of weight and debility follow.

Third—Locally, increase in tissue thus creating a vicious circle by increasing obstruction to the passage of air through the nose.

Fourth—Contiguously both congestion and purulent inflammation.

(a) Congestions and irritations of the sinuses with the attending symptoms, some of which, such as dizziness and headache may render the patient's life miserable; congestion and irritation of the conjunctiva, pharynx, larynx, bronchi or ear and perhaps of the brain and interior of the eye paving the way for future trouble such as purulent sinusitis deformed lids with ulceration of the cornea, follicular pharyngitis, chronic laryngitis, persistent bronchitis with the fear on the part of the patient that he is tubercular, incurable deafness, photophobia which may be very harrassing, and mental irritability.

(b) Purulent inflammation of the sinuses with their complications such as nasal polypi, which in some cases, completely occlude the nose and deprive the patient entirely of the sense of smell. This is very disagreeable and not without danger. Also complicating purulent sinus disease, we may have ocular paralyses, optic neuritis and other pathological conditions—often resulting in blindness, meningitis or brain abscess with a good many deaths, middle ear disease, chronic pharyngitis, chronic laryngitis, chronic bronchitis, bronchiectasis, gastritis, possibly appendicitis, gall-bladder disease, nephritis, septicemia, etc.—all complications of sinus disease. We have all perhaps seen cases of sudden blindness with no apparent cause, and possibly have not realized that a great many of these are due to sinusitis, and most of us have seen inexplicable cases of meningitis resulting in death and perhaps have not thought of the possibility of their prevention by nose surgery. And, we have all seen cases of chronic bronchitis or bronchiectasis and have been disgusted with drugs, not realizing perhaps that a focus of infection in the nose must be eliminated to effect a cure and that it is very possible.

Fifth—Again as a direct result of the disease we may have acute and chronic purulent and non-

purulent middle ear inflammation, which may result in deafness, or in case of the purulent type complications which frequently cause disaster. Perhaps some of us have been somewhat disgusted at times with the results our referred patients have obtained in cases of deafness with or without a chronic running ear. I hope you will bear in mind that when these cases, especially of catarrhal deafness, call for help they have done so as a rule thirty years too late, and often when they can be helped, but little if at all. Neither is this surprising any more than that we do not get very brilliant results in cases of chronic interstitial nephritis or cirrhosis of the liver with a thirty year pathology. And the condition could have been prevented if its precursor had been given the proper attention whether on the part of the doctor or the patient. This applies especially to chronic otitis media.

Some of us, I am sure, believe, or have believed that this condition is, or was, not serious and not curable. Are there not an enormous number of people distributed everywhere who have nasal catarrh and take it as a matter of course or thinking of their acquaintances who have consulted a physician with little encouragement or relief, give up hope of being cured?

On the other hand, nearly every case is ultimately serious as to the function of some important and almost essential organ, or, as to longevity, and nearly every case if properly treated early is easily curable with almost no risk to the patient and in the ordinary course of events with perfect results. Impaired vision, impaired hearing, impaired speaking, bronchial disease or general debility one or all are sure to follow in the wake of this supposedly unavoidable, supposedly incurable and unimportant malady. Not a few promising careers have been nipped in the bud by its more violent termination or by its more insidious but nevertheless ruthless vitally maiming sequelæ instead of becoming valuable citizens in their communities by means of proper attention on the part of the medical profession.

I would not have you believe that they are not benefited at any stage—short of violent complications, but the chance in the late stages for a perfect, or nearly perfect nose is small. They can be greatly benefited in the later stages, especially where there is constant formation and partial retention of pus—some even with apparently perfect results. Even after violent complications have arrived a few are saved by intervention. But they are certainly anything but desirable cases.

The cause is usually mechanical and the treat-

ment purely surgical with a few exceptions due to some constitutional dyscrasia. The cause is in a nut-shell, one or two things, in origin, simple obstruction with decreased air passage or negative pressure and usually both, depending on the site of the obstruction. Negative pressure occurs with a forward obstruction not with a posterior obstruction and with consequent congestion and inflammation.

One point I wish to emphasize is that the cause is not a soft swelling in the nose which is so frequently cauterized with temporary benefit. Neither is it an enlarged inferior turbinate bone so frequently removed with actual damage to the nose and to the patient. These things are early and late results respectively of the disease. This soft swelling so frequently seen is entirely away from the seat of the trouble, and to expect a cure from its cauterization is as sensible as to expect to remove the obstruction to a stream of water by taking drift wood off the top of a concrete dam. The same is true of the enlarged inferior turbinate. The soft swelling is usually the result of negative pressure beyond and at the swelling, and the enlarged turbinate follows the inflammation due to the soft swelling or follows sinusitis with its irritating secretion or follows pressure irritation of air or tissue.

More specifically, the cause in the great majority of cases is a misshapen septum whether bent, thickened or spurred, fairly often and, primarily, enlarged middle turbinates sometimes called cystic or an abnormally small nose. Of course, we all realize that climate plays a part in these cases, but climate is only rarely the primary cause and usually is simply the additional weight in the scales already overbalanced against the patient, to a slight extent perhaps.

Before taking up the treatment possibly I should say, that the thing that requires treatment is not merely an anatomical defect but an anatomical defect that causes a pathological condition, an obstruction rather than merely an asymmetrical nose. The early treatment in nearly all cases consists in a partial submucous resection of the nasal septum or middle turbinectomy, or both. I say partial resection because the septum is never completely removed and in some cases only a small part need be removed. Also, in quite a few cases only a part of a middle turbinate need be removed. But if we would justify the operation we must remove sufficient tissue to relieve the obstruction to breathing and to sinus ventilation.

A word for the small nose. This seems to me to be the one almost or quite incurable condition. Unless possibly an early adenectomy might in-

crease the sizes of these noses by increasing the amount of work they have to do. We can lose nothing, if the entrance to the nose is of sufficient size, by removing enough tissue to make it possible for the patient to breath through the nose under ordinary conditions, but the gain may be small and unsatisfactory, due to deficient nasal tissue remaining or deficient air passage after operation. One other frequent cause, of no small consequence, especially in children, is adenoids and diseased tonsils and the treatment obvious, although, not so simple as sometimes or frequently considered. It is very important that adenoids and tonsils be thoroughly removed and that other structures be left intact and calamity is sure to follow if this little procedure is not considered seriously. It is a disconcertingly common thing for us to hear people say—so and so had their tonsils out and was worse afterward than before. "I don't believe in taking them out." The reason is apparent to any one who sees the throats of these unfortunate patients.

The two things I wish to emphasize most are, that the condition is serious, has cost a good many careers and lives, and that it is nearly always curable and leaves a perfect nose if properly treated early. They must be properly treated if treated at all. Otherwise the patient is apt to be worse and in such a condition that further work is more difficult or impossible. You have had in my own voice an involuntary demonstration of the effects of one of the sequelæ of this condition.

To summarize briefly with a question, considering that there is very little in what I have said, that is theoretical, that nearly all the foregoing statements are based on generally accepted facts: Does not this condition, so prevalent, so much neglected, which causes not only many deaths, and unhealthy people, but such disastrous consequences to sight, hearing and smell, three of our five principal senses, which can be so easily cured, deserve grave consideration on the part of the medical profession?

If this effort has seemed inadequate I hope you will bear in mind that a very great deal more could be said if time permitted.

MISSOURI PACIFIC RAILWAY HOSPITAL

The new Missouri Pacific Railway hospital costing \$1,000,000, owned by 40,000 employes of this company, was opened recently at St. Louis.

This hospital is built for the treatment of the employes of the Missouri Pacific Railway Co.

AMERICAN CHILD HEALTH ASSOCIATION

532 17th Street, Washington, D. C.

Under the leadership of Herbert Hoover, chairman of the American Relief Administration, a union of societies known as the American Child Health Association has been formed for the protection of child health in America. This association will put the full strength of the American Relief Administration behind a merger of two great national organizations at present doing work in America for children. One is the American Child Hygiene Association which for thirteen years has been striving to improve conditions for the mother before and after child-birth, for the infant and for the pre-school child up to five years of age under the presidency of such men as Dr. Philip Van Ingen of New York, Dr. Samuel McClintock Hamill of Philadelphia, Dr. Henry L. K. Shaw of Albany, N. Y., Dr. J. H. Mason Knox, Jr. of Baltimore, Dr. S. Josephine Baker of New York, Mrs. Wm. Bowell Putnam of Boston and finally of Mr. Hoover himself. The other is the Child Health Organization of America which under the presidency of Dr. L. Emmett Holt aims to have health taught in the schools as a positive, not a negative subject, and to make the teaching such a game as will engage the active interest of every boy and girl in America. Both have already done remarkably successful work which will now be greatly broadened. Earnestly supporting them will be the American Relief Administration, translating into service through the new association the experience in organization and administration gathered in eight years from the time of the Belgian invasion when it functioned under the name of the commission for relief in Belgium, through the years of reconstruction in Eastern and Central Europe and down to the present day in Russia.

The American Child Health Association will cover the whole cycle of child life prior to the period when the individual enters the industrial or college world. Such a work cannot be effected without the fullest cooperation of the local welfare agencies already functioning. It needs the active assistance of every parent, doctor, nurse, teacher, public health official and social worker in the country. The aim of the new association then is to create what may be described, paradoxically, as a decentralized child health union, by which we mean it wants every agency and every individual as a member of the national body, but

not for the purpose of usurping or even directing local activities. On the contrary, its object will be to stimulate, when necessary, and to strengthen in every way possible the work now being done in the local communities. With that object in view it will have definite concrete aids to offer active members.

Firstly, the American Child Health Association will act as a clearing house of information on all national child health activities. It will act, so to speak, as a switchboard through which a newly-born organization can listen in on the experiences of its elders; through which a struggling organization can learn how best to save its time, effort and money by avoiding recognized pitfalls.

Secondly, it will serve as a source of up-to-date, scientific information on child health, prepared by the best qualified doctors and other professional workers in this and other countries.

Thirdly, it will supply a field service composed of experts who, on request of a community, will help organize a new local health body or help solve the problems of one already existing.

Finally it will aim to establish standards for child health work on a sound medical basis, to eliminate waste in the practical application of these standards, to coordinate the work already being done in such a way as to avoid all duplication of effort. It is quite evident from authenticated statistics that that work is not sufficient to meet the present need. America now ranks last of all nations advanced enough to have statistics on maternal mortality. It ranks sixth in infant mortality. Of its twenty-two million school children, 30 per cent are so far under standard weight as to suggest a condition of malnutrition, and three million are in urgent need of medical attention. The American people therefore cannot afford the loss of energy due to duplication and the consequent confusion which at present results from uncorrelated child health work.

That is the fundamental reason for the amalgamation of the American Child Hygiene Association and the Child Health Organization and for the proffer of administrative help from the American Relief Administration. The merger is being effected, because by such a union of forces the work done in the past can be extended to meet the present and future need of more workers, more efficient workers and better organization. To succeed, the American Child Health Association must have energetic cooperation from all groups. It needs the assistance of every professional worker—every doctor, nurse, teacher, public health official and social service official. It

needs the cooperation of the parents, because on them in the last analysis rests the responsibility for the child's condition. It needs the cooperation of the children themselves, a simple thing to secure when health can be made such an attractive objective as the Child Health Organization has succeeded in doing.

In addition to those already mentioned its directors include Miss Grace Abbott, chief of the Children's Bureau, U. S. Department of Labor; Dr. F. L. Adair, obstetrician, Minneapolis; George Barr Baker, American Relief Administration; Dr. Hermann M. Biggs, Commissioner Public Health, New York State; Miss Alice Blood, Simmons College, Boston; Miss Lillian Clayton, director, League of Nursing Education; Dr. Hugh S. Cumming, surgeon-general U. S. Public Health Service; Dr. Livingston Farrand, president, Cornell University, former chairman of the American Red Cross; John H. Finley; Edward Flesh, comptroller, American Relief Administration; Homer Folks, secretary, N. Y. State Charities Aid Association; Dr. John A. Foote, professor in pediatrics, Georgetown University; Elizabeth Fox, director Public Health Nursing, American Red Cross; Mary Gardner, honorary president, National Organization for Public Health Nursing; Dr. Arnold Gesell, professor of Child Hygiene, Yale University; Dr. Clifford G. Grulee, department of pediatrics, Northwestern University, Chicago; Mrs. Franklin K. Lane; Dr. William P. Lucas, professor of pediatrics, University of California Medical School; Dr. Helen MacMurchy, director Child Welfare, department of health, Canada; Dr. J. Arthur McBride, president, Montreal Child Welfare Association; Dr. E. V. McCollum, food expert; Mrs. Wm. B. Meloney; Dr. Prentice Murphy, executive secretary, Child Bureau, Philadelphia; Frank Page, American Relief Administration; Angelo Patri; Mrs. Charles S. Pillsbury, Minneapolis; Dr. Frederick Peterson; Dr. W. S. Rankin, state health officer, North Carolina; Edgar Rickard, director-general, American Relief Administration; Dr. Bernard Sachs, neurologist; Dr. R. M. Smith, professor, Child Hygiene, Harvard University School of Public Health, Boston; Dr. Borden J. Veeder, department of pediatrics, Washington University, St. Louis; Dr. Ray L. Wilbur, president, American Medical Association, and president, Leland Stanford University; Dr. William H. Welch, director, School Public Health, Johns Hopkins University; Mrs. Ira Cough Wood, chief executive, McCormick Fund, Chicago; Dr. William C. Woodward, executive secretary Legal Aid Committee, American Medical Association.

CHRONIC INTESTINAL INDIGESTION IN A CHILD TWO YEARS OLD*

Report of a Case

BERNARD E. MCGOVERN, M.D., B.Sc., Vail

Baby X, two years old; female.

History: for the past eighteen months has had alternately constipation and diarrhoea. Has been restless and fretful and for the preceding three months has been steadily losing weight. The mother states that "the baby was small and weak when born." It was breast fed until one year old. Since then the feeding habits have been irregular; candy and other foods being allowed between feedings. The appetite was voracious. The mother complained that the food the child ate "run right through her."

Physical examination shows a female child, thin, anemic and restless. The abdomen is extremely protuberant and tympanitic; no special points of tenderness. The temporal bosses are prominent. The features are sharp and drawn and the eyes are lusterless. The weight is eighteen pounds. The lower borders of the ribs flare out otherwise the chest is negative.

The urine negative except indican in excess.

Examination of the stool showed a bulky, brown, acid, foul smelling stool with many undigested particles in it.

The following instructions were given to the mother: Feed regularly three times daily; allow no food between meals.

Give cascara at bed time each night and if bowels do not move twice the next day give an enema in the evening.

The following diet was given at the beginning: junket, scraped beef, scraped veal chops, white of egg, butter milk and meat soups. Butter milk is desirable on account of the low fat content and because the casein curd is more flocculent and broken finer than the curd which forms when sweet milk is taken into the stomach. Those patients are very intolerant of sweet milk because the lactose ferments in the intestine, and also the fat content of sweet milk is high.

Those patients have their chief difficulty in handling fats and next in order comes carbohydrates.

Phosphorus was given on account of the skeletal changes, those patients being intolerant of cod liver oil.

After two weeks small portions of graham cracker and oatmeal were cautiously added to the diet.

At the present time, one month after beginning

treatment, the child has lost the large abdomen and the indicanuria. She has had no diarrhoea and has gained three and one-half pounds within the month. The anemia has practically cleared up and she is not so fretful.

The whole secret in treating those cases is a strict regime and close attention to detail. The carbohydrates must be slowly and cautiously added; sometimes a year must elapse before much carbohydrate may be given. The fats are added still more cautiously. The acquired type of chronic intestinal indigestion is much more satisfactory to treat than the congenital type.

OFFICIAL BULLETIN OF THE AMERICAN COLLEGE OF SURGEONS

The fifth annual announcement of the Approved Hospitals of the United States and Canada was made October 22 at the Hospital Conference of the Clinical Congress of the American College of Surgeons here in session at the Congress Hotel by Franklin H. Martin, M.D., director general. In making this official announcement Doctor Martin highly complimented the hospitals of both countries which had taken the steps laid down by the college as necessary to merit such well-marked recognition. "By your action," he said, "you have pledged yourselves to see that the best care possible is given to the patients in your hospital." The report is based on a detailed survey made by experts through a personal investigation of all general hospitals of fifty beds and over in the United States and Canada. This investigation is made for the purpose of appraising the service rendered the patient, based on the definite requirements set forth in the minimum standard. Seventeen hundred and eighty-six hospitals with a bed capacity of 237,946 were included in the survey this year. Of the group 1176 or 65.9 per cent for both countries met the standard. In the state of Iowa the following hospitals, 27 in number, or 65.9 per cent merit a place on the approved list.

The asterisk indicates that certain hospitals have accepted the requirements which result in the best scientific care of patients but have not yet, for lack of time or other acceptable reasons, carried them out in every detail.

General hospitals of fifty beds and over on the approved list have met the minimum standard, which includes the following requirements: proper professional organization; satisfactory medical case records; adequate laboratory and x-ray facilities; and the enforcement of a ruling which prevents certain surgeons who carry on the pernicious and inhuman practice of fee-splitting from operating within the hospital. M. T. MacEachern, M.D., in charge of hospital activities for the college, in addressing the hospital meeting today said, "This is the greatest hospital movement the world has ever seen or perhaps ever will see. It strikes right at the root of

things that have a vital bearing on human life. It is a movement destined to lessen the number of days stay of patients in the hospital through better service—to reduce complications and infections to a minimum through better supervision—to lessen incompetent and unnecessary surgery through better diagnostic facilities, more consultations, and closer check-up and, finally, greatest of all, to lessen the hospital death rate. These things are noticeable in standardized hospitals. What a great thing it is to industry to realize that the stay of the industrial patient in the hospital can be reduced one or two days for each individual. What a great comfort it is to a person obliged to go to the hospital to know that his case can be more thoroughly and accurately studied and not infrequently an operation avoided, or done with maximum safety. How gratifying it is to realize that in the highly standardized hospital the former usual death rate of forty, fifty, or even sixty per thousand patients can be reduced to thirty, twenty, or even less, under the influence of this program. There is not a hospital on this continent that can turn a deaf ear in the future to the movement. It is entirely in humanity's interest.

100 or More Beds

Finley Hospital, Dubuque.
Iowa Lutheran Hospital, Des Moines.
Iowa Methodist Hospital, Des Moines.
Jennie Edmundson Hospital, Council Bluffs.
Mercy Hospital, Cedar Rapids.
Mercy Hospital, Council Bluffs.
Mercy Hospital, Davenport.
*Mercy Hospital, Des Moines.
St. Joseph's Mercy Hospital, Dubuque.
St. Joseph's Mercy Hospital, Sioux City.
St. Vincent's Hospital, Sioux City.
University Hospital, Iowa City.

50 to 100 Beds

*Des Moines City Hospital, Des Moines.
Iowa Congregational Hospital, Des Moines.
Iowa State College Hospital, Ames.
Jane Lamb Memorial Hospital, Clinton.
Lutheran Hospital, Hampton.
Lutheran Hospital, Sioux City.
New Samaritan Hospital, Sioux City.
*Ottumwa Hospital, Ottumwa.
Park Hospital, Mason City.
St. Francis Hospital, Waterloo.
*St. Joseph's Hospital, Keokuk.
St. Joseph's Hospital, Waverly.
St. Joseph's Mercy Hospital, Clinton.
St. Joseph's Mercy Hospital, Fort Dodge.
St. Joseph's Mercy Hospital, Mason City.

Believing in the great value of occupation to the individual, the Oconomowoc Health Resort, Oconomowoc, Wisconsin, have added occupational therapy to their equipment for the special care of neurasthenic and border line cases, as indicated in their announcement in the advertising section of this issue.

The Journal of the Iowa State Medical Society

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LAY PRESS AND THE TRI-STATE DISTRICT
MEDICAL ASSOCIATION

An examination of the lay press, particularly of Des Moines, on the late meeting of the Tri-State District Medical Association as shown by clipping bureau, is interesting and encouraging to the medical profession. As might be expected, the reporters saw and heard things that were not seen or heard by the medical man, but altogether the reports were fairly accurate and always friendly. The leading editorial in the Des Moines Register for November 1 we trust was read by every physician present. If he had pessimistic feelings as to the attitude of the public and the better class of newspapers, it should be dissipated. The editor presented the case in strong and eloquent language which should create the feeling that when the medical profession presents to the public high ideals and shows how earnest it is in rendering the best that is in it in the way of public service, the public will appreciate it.

It is true that there are a few selfish and dishonest men who only consider private ends, that the public and the press not infrequently criticise, sometimes without fair discrimination. This should keep us awake to the necessity of watching the conduct of those who are associated with us, to say nothing of our own conduct.

The meeting in Des Moines was exceptional because of the high character of the men who contributed, and the great distinction to which they had attained in the professional world, but they were men just like ourselves, subject to some of our own weaknesses but altogether had reached

their high places through years of hard and unremitting labor, and in many cases, by many sacrifices. It had not with them been a question of how much there "was in it," but what they could do for the world. Dr. Banting is a case in point. How many of us would share the credit with Mr. Best? It may not be possible for us individually to reach the high places of the men the newspapers honored so frequently, but in our local societies and in our individual conduct toward each other we may in a small way gain the applause of the public and the newspapers, which represent the public.

The kindly notices given us by the press places us under obligations to the newspapers and should lead us to take them into our confidence, not in exploiting us individually, but in giving them reliable information on medical matters. From the great number of notices of medical society meetings and hospital activities that come to us from the clipping bureau, we have come to look upon the newspapers as the friends of the medical profession and we should not hesitate to acknowledge our obligations.

RULES OF MEDICAL CONDUCT

What should be our attitude towards the various cults as to consultation in surgical and obstetrical emergencies is sometimes a difficult and delicate question, and sometimes leads to misunderstandings.

The first and most important issue is the patient. It must be clear on the most superficial examination that a deliberate consultation between an educated doctor and one whose practices according to a single idea could be of no value to the patient and would likely lead to therapeutic confusion. A patient may have typhoid fever and a consultation asked. Aside from any ethical question, a doctor should not consult with a chiropractic, because primarily the diagnostic and therapeutic methods would necessarily be so far apart that no good could come out of it. If the typhoid patient is in the hands of a chiropractor and should develop a perforation, it would then be an emergency case and the saving of a life would depend on prompt action. Under such conditions the educated doctor should accept the case only with the understanding that he should continue with the patient in his after-treatment without regard to the chiropractor, for the very plain reason that such an association could be of no advantage to the patient, but would decrease his chances of recovery from a confused and inefficient post-operative treatment, indeed, the ed-

educated doctor by turning the patient back, would expose his work to an excessive and unwarranted risk. This would apply to a practitioner of any school if found incompetent in the treatment of such cases. The above would apply to any emergency surgical or obstetrical case. In an acute appendix or amputation case, the operation is not all, and the best surgical application might go to ruin by unwise after treatment, under the guise of ethical considerations. A forceps case, or Cesarean section, demand the continued attention of the educated doctor to the end, for very obvious reasons.

The patient's welfare is to be considered first, and to continue a divided service between practitioners of different schools of medicine is not only unwise and unnecessary, but may be positively harmful; it would mean that the best interests of the patient were left out of account; not only is this true, but the educated doctor assumes a legal risk entirely uncalled for if he in any way participates in the case, not only a legal risk but a risk to his reputation even if he withdraws from the case and the unfavorable result is due to the after treatment.

It is clear then, that if the educated doctor accepts service in an emergency case attended by an irregular practitioner in the interests of humanity, he must take exclusive charge of the case and there should be an understanding to this effect before he accepts the service. If this arrangement is not accepted, he should refuse to have anything to do with the case. The educated doctor in offering this arrangement has performed his every duty to humanity and to the patient.

The question is a little more difficult if a consultant is called in on an emergency surgical or obstetrical case in the hands of a physician of his own school. It must be admitted there is a vast difference between one doctor and another of the same school in skill and knowledge, and again the question of humanity and patient's welfare are of the first importance, and when the educated doctor is called in consultation and he has good reason to believe that the attending physician is competent and efficient, he may, with propriety, when the emergency is met, leave the patient in the hands of the attending physician, or join with him in the post-operative treatment, and accept joint legal liability and his own reputation for skill and efficiency. If the consultant is reasonably certain that the attending physician is incompetent, careless and unfit to carry on in the treatment of this particular class of case, it is clear that he should insist on continuing the care of the case

until the danger is past, even under the protest of the attending physician, and again, under the circumstances above stated, an understanding should be entered into with the nearest friend for continued service after the emergency operation has been performed, and if the arrangement is refused, decline the case. There are two reasons for this; first, the spirit of humanity and the welfare of the patient. Second, it is unjust and unwise to accept the legal responsibility and loss of reputation incident to a well considered emergency treatment and have it come to naught by unskillful and careless after treatment. It is easy to believe that abuses may grow out of such views by skillful but dishonest educated doctors, who may disregard the rights of an equally well educated doctor and take the case into his own hands for purely selfish reasons.

We are assuming that the great majority of educated doctors are gentlemen and may be trusted. Consultations in ordinary cases of sickness where no emergency exists, may be considered without any rule of conduct, as being a private matter, not necessarily involving any rule of humanity or patient's ultimate welfare.

Again we may say that consultations with cults are never profitable and should be refused except in an emergency where a life is at stake, when the educated doctor should take full charge of the case to the end.

LIFE INSURANCE COMPANIES IN RELATION TO HEALTH ACTIVITIES

The general public in their devotion to money-getting have little time to consider the factors involved in maintaining health, and the improvement of health. Maintaining health is generally looked upon as a personal matter which affects us as individuals, and we leave to health officers to enforce, health regulations regarding water, milk, etc.

The improvement of health conditions we have not come to consider seriously because it relates to community interests in which we as individuals have no definite part, but which in fact react upon our interests and upon ourselves at no distant time, but too remotely to excite our immediate attention.

The most important influence and present source of information, comes from the great insurance companies. Most of us look upon life insurance as a business carried on under business methods for profit to insurance companies and the insured. But there is a side to life insurance beyond direct interest, which we should stop to

consider. The influence we refer to is in relation to health conditions. There are about 53,000,000 policyholders in the United States and Canada. The great companies have in recent years accepted a public responsibility in furnishing information they alone possess in accurate and reliable form. To make life insurance safe, both to company and policyholder, a medical examination is required, so only selected persons are accepted. All these companies keep accurate records touching those accepted and those rejected, and why rejected. With this vast amount of data, the companies are able to inform us of the real health conditions in the United States and Canada.

Dr. Augustus S. Knight, medical director of one of the great life insurance companies, in an address before the Association of Life Insurance Presidents, on "Life Waste," presents some interesting facts which we may well consider. We shall omit statistical data as far as possible and refer to certain important facts and conclusions.

The records show that from 7 to 10 per cent of applicants are rejected, and it is of interest for us to know why these persons are rejected. We may assume that only those who believe themselves in good health apply for policies. About 15 per cent are found on examination to be suffering from some form or degree of nephritis; 5 per cent from diabetes; over 10 per cent from suspicious signs of respiratory disease. "About a quarter of them have one type or another of heart impairment." Thus it will be seen that about 30 per cent of rejections are for nephritis, diabetes, respiratory or heart lesions, all in the best years of life and without a knowledge of the affection. We all know of the psychological affect of such suddenly acquired knowledge of their condition. A large per cent could have been remediable if this knowledge had been acquired at an earlier date and under more favorable circumstances, by a voluntary physical examination.

When the above percentages are found in persons who believe themselves well enough to secure insurance, how great would be the per cent of those suffering from some undefined disease which leads them to refrain from seeking insurance? We do not know now, but should know from voluntary physical examination. The above data should be a strong argument for periodic medical and physical examination.

It is estimated that there are in continental United States and Canada 180,000 deaths from heart lesions, and among the insured 57,000 deaths from this disease, and as Dr. Knight states it is a "mistake to suppose that these fatalities are lim-

ited to old people." Five per cent are in children under fifteen years of age, and fully 30 per cent under fifty years of age. The average age at death from heart disease among insured persons is only fifty-six years.

THE DANGERS OF A PRESIDENT'S LIFE

The lay and medical press join in a general feeling of regret that the nation treats its presidents badly in imposing duties beyond the strength of man to endure. There appears to be a feeling that when we have elected a president, it is our right, and sometimes our duty, to do what we may to make his administration as burdensome as possible, generally unconsciously, but sometimes viciously. Even if he is not of our party, he has been elected legally by a majority of votes cast. He is our president just as much as if we voted for him and is entitled to every consideration in regard to his health, particularly. To every American he is the head of the nation for at least four years. He is the executive and must determine many of our policies. To partisans he is the head of his party and must devote his energies to maintaining his party in power at all hazards, and to devote every energy to secure support, as in the case of Mr. Harding, or, as in the case of Mr. Wilson and Mr. Roosevelt, to defend certain policies which they believed essential to the welfare of the nation. The apparent necessity in the one case and the bitter opposition in the other, carries anxieties more trying than the physical exertions.

All are agreed that some measure should be adopted to lessen the burden. The duties of the president are fixed by the Constitution, but there are no doubt ways and means which may be adopted that will keep these duties within the Constitution without loss to the nation and with a material increase in the efficiency of the executive. There should be no enemies among real Americans to our president and if politicians and partisan newspapers could be restrained, our president's life would be more happy and more fruitful. It is not hard work that kills, but the multitude of anxieties and annoyances that haunt a man day and night, many of which are unnecessary and unpatriotic.

The men who are to be responsible in the present deplorable state as relates to our presidents, listen to the voice of the people and we feel a personal duty, however obscure and feeble our voice may be, to add to the cry that is going up from all sections of our country, not so much to lessen the work, as aid and support to our presi-

dents in future days, for, if we look back over twelve years or more and measure the future by the past, considering the increasing complexities of our government, election to the great office of president will be equivalent to a death sentence.

THE ANNUAL CONFERENCE OF SECRETARIES OF CONSTITUENT STATE MEDICAL ASSOCIATIONS, TOGETHER WITH A CONFERENCE OF EDITORS OF STATE MEDICAL JOURNALS

At this conference it was recognized that some editors were not state secretaries, but were entitled to access to the deliberations of the men who knew most about medical organization. Nearly every state was represented either by secretary or editor. The American Medical Association was represented by President R. L. Wilbur, president-elect William Allen Puesy, Dr. Frank Billings and Dr. J. M. Dodson.

The papers and discussions covered nearly every question agitating the profession today. There was rather wide divergence of opinion touching most questions, but altogether there was a general harmony of opinion as to the purposes at issue, only the method of approach showed a divergence of opinion. When it is considered that there are some forty-eight states operating under different codes presenting special features of administration, it is not strange that difference of opinion should exist as to methods, while all are agreed on the main purpose.

All were in accord with Dr. W. F. Donaldson of Pennsylvania, who, in a paper on "Organizational Efficiency," insisted on adequate dues as being necessary to create a sufficient fund to promote the "economic status of the physician." He was of the opinion that without money to carry on the work undertaken by the several state medical societies, success would be small. The general opinion was that the physician who complained that the Society did not do more for the good of the profession and was not willing to contribute his share, was not entitled to much.

Much was said in the encouragement of diagnostic clinics. Dr. Billings was of the opinion that these clinics were of vital importance in promoting "periodical medical examinations," which was the subject of a paper by Dr. B. L. Bryant of Maine. Dr. J. M. Dodson presented an interesting discussion on the "Functions of the Bureau of Health and Public Instruction of the American Medical Association" and Dr. Wilbur expressed opinions as to medical legislation. That great care should be observed in relation to any

legislation which would appear to place the medical profession on the defensive.

It would appear from the discussion that the last two subjects which so closely affect our relations to the public, should be very carefully considered. It was apparent that our educational campaign was not to be limited to the general public but that the general profession should be taken into account. There was considerable evidence to show that the public is as friendly to the profession as it ever was and that no little fault lies with us, particularly in our local society organizations. Wherever we find a well-organized, friendly, county medical society, there we will find the problem solved. We find in the newspaper accounts of well-organized county societies a most friendly spirit on the part of local papers. We also observe an increasing number of cases where representatives of the press are invited to local meetings, particularly invited to the society dinners. We do not need to purchase the good will of local papers, but treat them in a friendly manner. Their influence is great with the local public and we often find them refusing valuable advertising when they are convinced it is against the public good.

In our opinion Hygeia is probably the most efficient agency for the education of the public on medical matters and also believe county medical societies would do well if they subscribed for a copy of the magazine for each local newspaper, in a friendly spirit.

The conference, made up as it was of earnest men who have the good of the profession at heart and moved by an earnest desire to organize the highest order of service for the public, are accomplishing a great work.

WHAT PEOPLE THINK OF THE DOCTORS

The Literary Digest publishes an article under this head, inspired by an inquiry suggested by Dr. James H. Hutton of the Chicago Medical Society, and published in Illinois Medical Journal.

The reason for the appointment of the committee was the falling away among certain patients to quacks and cults and practitioners of little value—the vast fund of misinformation which the layman at large has about the policies and achievements of the medical profession.

Now if the average business man, selling service of the highest known grade, found numbers of his potential customers not only not utilizing that service, but using others far less meritorious at a far greater price, he would immediately send out trained workers to make a trade survey.

On this preamble a corps of experienced workers were sent out and interviewed a total of 6,772 people of all classes and stations in life, in such a way as not to excite suspicion, as to their views on physicians. Of that number only 931 had never dabbled in cults of pseudo-science. Of 931, 384 had no curiosity about cults; 5,841 were directly against physicians and offered 22 reasons for their dislike.

The chief investigator concludes:

It means 93 per cent of these people do not care to come to you unless they think they are going to die. It means that they are actively interested in other things. The modern mind is a little bit overstimulated.

If I were a business man and had invested a large sum of money, together with seven or eight years of my life, in preparing myself to do the sort of service you are able to do, and if the quality of my service was from year to year increasing, and if the potential customers for that service from year to year, country wide, was decreasing in proportion to the wealth of the country and the population of the country, then I think I would do something and I think I would do that quick.

This is the problem of the medical profession. Another is the problem of the agriculturist, and still another is the problem of business in general. The statesman, the politician, the army and navy, even religion has its problems. The whole country has its problems. The League of Nations, or against the League, all are longing for some one to arise to point out the way. As long as the business man cannot find the way, how can he direct the medical profession?

The American Medical Association has in the field some of the most experienced and wisest men in the profession, working on the medical problems such as referred to, but how many co-operate, how many find fault and obstruct? One who reads the proceedings of the House of Delegates at the recent San Francisco session must be impressed with the fact that there is leadership and what is needed is cooperation. If any one knows of a certain remedy, or reasonably certain remedy, we feel sure the committee would gladly adopt it.

Is it not true that we must wait until the mass-mind has adjusted itself to a degree, under the directing influence of a correctly adjusted medical leadership?

Tri-State District Medical Society (Iowa, Illinois, Wisconsin) has added Minnesota, Indiana and Missouri and changed its name to the Interstate Assembly of Physicians and Surgeons.

The next annual meeting will be held at Rochester, Minnesota.

UNITED STATES MARINE HOSPITALS CROWDED

Public Health Service Reports Great Activity of American Shipping in San Francisco

"Owing to the increased amount of shipping on the Pacific Coast, the Marine hospitals at San Francisco and Port Townsend, operated by the United States Public Health Service are now overcrowded," Surgeon General Hugh S. Cumming announced, today.

So great has been the influx of patients, due to the increased activity in American shipping in San Francisco, that the Public Health Service has found it necessary to place many patients in contract hospitals. To increase the capacity at San Francisco, the Service now plans to remove attendants from their quarters to furnished lodgings in the down-town section of the city. By doing this, thirty-eight beds will be added to the capacity of this hospital.

Surgeon General Cumming also announced that "plans for the enlargement of the Marine hospital at San Francisco and for a new Marine hospital to be constructed at Seattle, Washington are now receiving serious consideration but that appropriations for these projects will be necessary before they can be undertaken.

ANNOUNCEMENT SECOND COURSE IN DIA- BETIC TREATMENT, IOWA UNIVERSITY

Starting January 7, the medical department will offer a six-day course in the study of diabetes. The management of the diet, laboratory methods, and insulin therapy will be considered. Instruction is by members of the medical department, and work is carried on under a grant from John D. Rockefeller, Jr. All practitioners are eligible for the instruction, but only a limited number can be taken at a time, so that advance registration is necessary. There are now twenty-five beds available for diabetics in the medical department and these cases are available for study. Inquiries should be addressed to the head of the department.

FUNCTIONS OF THE BUREAU OF HEALTH AND PUBLIC INSTRUCTION

Abstract for the Conference of State Secretaries November 16, 1923

Statement of Origin and Work of the Former Council

FUNCTIONS OF BUREAU

In general, Health Education of the Public—Importance, opportunity and duty of medical profession. Other agencies will monopolize field if physicians do not do their part.

I. **What Subjects?**—Any which have to do with, and would promote better health conditions. Care and judgment vital in both subject and method.

II. **Methods**—A. Printed Word.

1. Hygeia—Nine issues—April-December, 1923. Average number printed each issue, 30,000; subscrip-

tion list, 25,000. Articles should be authoritative, interesting, attractive. Should appeal to intelligent, thoughtful persons, and to others.

2. Items in lay publications, newspapers, magazines, etc., from Hygeia, Journal of the A. M. A., et al. Must be carefully edited. Widely circulated. How widely used? Need of revision.

3. Pamphlets—New reprints from Hygeia. Council had 92 pamphlets (see catalog of A. M. A. publications). Two of new series displayed. What topics are most important for pamphlets.

B. By Word of Mouth.

1. Addresses by Doctors before lay organizations. Bureau should supply material for speakers.—Speaker's Bureau not revived. Why? Speaker's handbook, charts, slides, posters, and movie films.

2. Radio broadcasting. Widely used by many health agencies. Vast numbers reached.—From KY-W in Chicago broadcasting done three times. Stations in other cities will cooperate.

After all—the most important factor in health education is the family doctor and health advisor. A. M. A. should stimulate and aid him in every way possible.

C. Exhibits.

1. Display of work of A. M. A. before: (a) Medical groups at meetings of A. M. A. and state and local societies. (b) Semi-medical groups, e. g. dentists, nurses, hospital associations, etc. What has already been done. (c) Non-medical public, e. g. National and State Teachers' Associations, Federation of Women's Clubs, etc.

2. Health Expositions or Exhibits Scientific plus Commercial—Great possibilities. Importance of control by responsible organizations.

D. Cooperation with Other Agencies.

1. Semi-medical—nurses, dentists, social workers, etc.—American Conference on Hospital Service.

2. Non-medical, e. g., National Education Association—Joint Committee on Health Problems, American Child Health Association—Infant Welfare Work. National Health Council Society of Friends of Medical Progress—Protection of research and vaccination.

E. Special Activities, e. g., ordered from time to time by House of Delegates or Board of Trustees.

1. Periodic Examinations of the Apparently Healthy—Statement of what has been done—18,000 blanks, 3,200 reprints have been issued; 61 colleges and 100 hospitals asked to offer courses.

John M. Dodson, Secretary.

MEDICAL NEWS NOTES

Bogus Physicians

At least 25,000 bogus physicians and surgeons are "practicing medicine" in the United States, according to some investigators of medical diploma mills. The figure is startling. Here is a major evil going along for years without the public suspecting it. Fortun-

ately, it's a scandal that can be cleaned up quickly and thoroughly—if the proper authorities so desire.

No matter how thoroughly it may be suppressed, however, this evil will grow up again like a weed unless the various associations of legitimate physicians and surgeons act more vigilantly as watch-dogs.

It amazes one to find the medical profession honeycombed with untrained quacks. However, do we stop to realize that every other line of human activity is similarly honeycombed with incompetents? Yes, and just as harmful to the community at large as the phoney doctor to his unfortunate victims. Lawyers, judges, architects, newspapermen, financiers, managers, craftsmen—there are plenty of these who are thoroughly trained yet totally unfitted for their work by reason of warped ethics, natural incompetence, stupidity and dishonesty. In life, real ability stands out in the sea of incompetence like the proverbial blackberry in a bowl of milk.—Iowa City Press.

A letter sent to Doctor O. W. Wyatt, by Dr. Ludwig Hektoen, chairman of the American Aid for German Medical Science, makes an appeal to all leading doctors of the United States to aid in re-establishing medical science in Germany. Dr. Hektoen says: "For five years the medical men, the research workers and the medical students of Germany have been fighting a losing economic battle. Today, the value of the mark extinguished many are at the absolute end of their resources. The winter will be one of great distress. The educated classes are in the midst of the economic disorganization that has followed the Ruhr seizure, threatened on the one hand by the Reds, on the other hand by the Reaction. Slowly this educated and scientific Germany is crumbling.

The practitioner has become the 'Kassenarzt'; the research worker the clerk of the money changer; the medical student, after a summer's work in field or factory, returned to find his savings valueless. The old men of the profession are in most instances absolute paupers, their life's accumulation not sufficing to buy a slice of bread.

As alumni of America's universities and professional schools we cannot afford to stand idly by while scientific and medical Germany disappears. We have shared in the benefit of antitoxins, of chemotherapy, of the Roentgen ray. We shall not want the future to record that we were indifferent when the science of a Ludwig, a Virchow, a Helmholtz, a Koch or a Fischer was in dire need. The educated classes, particularly the medical profession can help."

Every medical doctor has received one of these letters asking for funds to help the Germany that is fast degrading from the medical world. A great many of the medical students and research workers who have spent most of their time in research or teaching have in many instances been compelled to give up medicine and works as clerk, as a laborer or in a factory employment. The older men of the

profession live on pensions which amount to practically nothing.

The state institutions have no funds and the privately endowed institutes have funds that are worthless. Apparatus cannot be purchased because the price is prohibitive. Animals cannot be secured for the same reason. A great many scientific journals have been forced to suspend business because of depleted funds, and medical meetings are no longer held; railroad fares must be used to buy bread. One hospital after another has been closed.

If these deplorable conditions are allowed to continue and medical science deteriorates in Germany, it is high time that self interest demand that some effort on the part of the medical organizations as well, play an active part in initiating a plan or campaign to bring relief to the medical group in Germany.

Anyone wishing to make any donations toward this organization and aid in re-establishing the medical conditions in Germany, may leave same with Dr. O. W. Wyatt or Monitor Publishing Company. This donation will be immediately taken care of and delivered to the headquarters at Chicago and sent to Germany to the medical organizations there.—Manning Monitor.

Honorary members Tri-State District Medical Association elected, Des Moines meeting were: Sir Robert Falconer, president of the University of Toronto; Sir William DeCourcy Wheeler, president of the Royal College of Surgeons, Dublin; Dr. Charles F. Martin, dean and professor of medicine, McGill University, Montreal; Dr. Edward William Archibald, clinical surgery, McGill University.

"There is danger of a reaction if one gets too much insulin, a patient may die but not suddenly. A patient must know what he is eating. Insulin must always be protected with food. Recently one of my patients took his insulin in the morning and then ran to catch a train without eating his breakfast. He dropped dead on the depot platform.

"Before insulin was used 10 per cent of all the diabetics died with the disease; out of thirty of my worst patients I was treating with insulin only 6.8 per cent died with it. A remarkable progress," he remarked.

"The discovery of insulin has been as remarkable as many of our other great discoveries and inventions.

"Dr. Banting was a country practitioner in London, Ontario. He got an idea and had faith in it. He sold everything he had and went to Toronto where he began experimenting with Dr. Best, a student, who was interested in a cure for diabetes because his dearest friend, an aunt, had died with it.

"When the Nobel prize was awarded Best was for gotten, but the day the announcement was made Best was addressing the students of the university

when I received a telegram from Banting. I have the original with me. I'll read it.

"I ascribe equal share in the Nobel prize with Best.'"

A storm of applause broke loose in the auditorium of Hoyt Sherman place as Dr. Joslin read it.

"Insulin should be used by the general practitioner. Unless they use it patients cannot live. Diabetics should not eat what they want, even under the treatment. They should never get fat. I always keep them ten to twenty pounds underweight."

Two former Sioux City physicians, Dr. Carl E. Conn and Dr. J. W. Shuman, now are associated together at Los Angeles, California. Dr. A. Pond, formerly of Dubuque, Iowa, is the third member of the partnership. They are located in the Murphy building, Sioux and Vermont streets.

Just previous to establishing himself in Los Angeles, Dr. Shuman was a member of the faculty of the University of Beirut, in Syria.

Dr. Shuman will specialize in internal medicine, Dr. Conn, gynecology, and Dr. Pond, surgery. Dr. Pond is a former president of the Iowa State Medical Society and associate professor of surgery at Northwestern University.—Sioux City Tribune.

IOWA STATE UNIVERSITY NEWS NOTES

Dr. Don M. Griswold

The junior class of the medical college of the State University of Iowa elected class officers recently after a hard political battle in which the entry of independent candidates made the issue rather doubtful for a time.

The officers elected were: Rolland V. Turner (M3), Boudon, Wisconsin, president; Granville A. Bennet (M3), Iowa City, vice-president; Margaret D. Horning (M3), McGregor, secretary-treasurer; Fred J. Carlston (M3), Iowa City, and Howard Turner (M3), Randalia, Iowa, representatives on student council; Clarence Johnson (M3), Eau Claire, Wisconsin, class representative.

The University Hospital Medical Society of Iowa City, held its regular monthly meeting Monday, November 19, 1923. The following program was presented: "Discussion of Tumors of the Cerebellar-Pontine Angle," (a) Anatomy—Dr. E. M. McEwen; (b) Eye and Ear Findings—Dr. L. W. Dean; (c) Neurological Findings and Diagnosis—Dr. Clarence Van Epps.

The Student Nurses' Association of the State University of Iowa held the Thanksgiving dance in the Westlawn reception rooms. About 100 guests were in attendance. Dr. and Mrs. E. C. Yoder were chaperones and Mrs. Elsie Gibson and Miss Josephine Creelman, superintendent of nurses, were guests of honor.

Information has been received that the University of Iowa has been selected by the U. S. Public Health Service of the Treasury department, as one of the four universities in the United States in which to conduct a course in public health service during the coming summer. The three other schools chosen are: Columbia University, University of Michigan, University of California.

The student health department of the State University of Iowa has now finished the complete physical examination of over 1,000 freshmen and sophomore students engaged in physical or military training. The complete listing of the physical defects found has not as yet been completed but will be completed in a short time.

Dr. Don M. Griswold, state epidemiologist, and Dr. R. F. Luse, Low Moor, are giving the Schick test and toxin-antitoxin to all of the school children at Low Moor and Elvira. From these centers the work is to be extended to cover the children and adults of Center, Eden and Camanche townships in Clinton county.

SOCIETY PROCEEDINGS

Audubon County Medical Society

The Audubon County Medical Society held a meeting in the offices of Drs. Jacobsen and Cron Monday evening, November 19.

The society went on record as endorsing the sale of Christmas seals and also as being in favor of the extermination of tuberculosis in cattle.

Dr. Riley read an interesting paper which was discussed by Drs. Jacobson and Childs. The following officers were elected for the coming year: Dr. Leroy Jensen, Audubon, president; Dr. C. F. Cron, Exira, vice-president; Dr. J. M. Fulton, Audubon, secretary and treasurer.

Boone County Medical Society

A fine program boosting the cause of the public health workers, was given at the Y. W. C. A. recently under the auspices of the Boone County Medical Society. The physicians and surgeons of the county had as their guests for the occasion the dentists of the county, and the ladies interested in the Red Cross Christmas seal sale. Altogether there were about 60 per cent for the dinner and program which followed.

Dr. R. S. Shane of Pilot Mound, president of the society, presided over the meeting and introduced the various speakers. Dr. John Peck of Des Moines, president of the Iowa Tuberculosis Association, was unable to be present because of illness and in his place came several who were interested in the various phases of public health.

The speakers included Miss Anna M. Drake, the state supervisor of public health nursing, Mr. Crooks,

associate editor of the Iowa Homestead; Fred Hunter, member of the Polk county board of supervisors; T. J. Edmunds, executive secretary of the Iowa Tuberculosis Association. The latter told how money for the work of the association had been raised through the sale of the Christmas seals of which Iowa's quota was \$100,000, 60 per cent of which was spent in the state.

Calhoun County Medical Society

On invitation of Dr. McCrary, the October meeting of the Calhoun County Medical Society was held at the Lake City Hospital on Thursday, October 18.

Six towns were represented in the business session. At the scientific session, Doctor Heinrichs of Manson presided over a round table discussion of helpful hints in medical practice from each member present.

The society voted the request that the coming clinic of the Infant Hygiene and Maternal Welfare be held in Calhoun county during the month of May, 1924.

The November meeting is to be held at Manson with Dr. W. E. McCrary of Lake City in charge of the program.

P. W. Van Metre, Sec'y.

Calhoun County Medical Society

The regular monthly meeting of the Calhoun County Medical Society was held in the Legion rooms at Manson, Thursday, November 15, the Legion auxiliary serving the banquet at one o'clock.

Dr. James Wallace of New York City, representing the international health board, spoke on the many phases of the county health unit. Under this plan there is a full-time health officer for the whole county, thus eliminating all local health officers. This county unit plan includes all of the health work heretofore done by the various agencies, medical aid to the indigent, free clinics, the maintenance of proper sanitary conditions, disease prevention, school inspections, and the bringing of the best methods to each county so organized. The health authorities cite Dubuque county, where this plan has been in operation, as an example of what can be done. This centralization plan has made it possible to cut down the expenditures by Dubuque county in this class of work from \$50,000 to \$18,000 per year.

The International Health Board is the organization backed by the Rockefeller Foundation which contributes \$2,500 a year to each county that adopts the county unit plan, and the state of Iowa contributes an additional \$2,500 also.

Cass County Medical Society

Wives of the Cass County Medics were the honored guests October 12, 1923. Immediately preceding the business meeting of the medical association was the banquet and a short program of toasts and talks. Following the banquet the ladies composed a theatre party at the Garden and the doctors convened in a

business session, which was featured by the reading of a paper by Dr. A. W. Anderson of Cumberland.

Dr. Montgomery presided as toastmaster. Drs. R. L. Barnett and W. F. Graham responded. The former added mirth and jollity to the program with new jokes and a talk on the bright side of the doctor's life. He concluded by paying a glowing tribute to doctors' wives.

Reminiscences of early days by Dr. Graham, Atlantic, veteran practitioner, were interesting. Dr. Graham is the only living doctor who assisted in the organization of the Botna Valley Medical Society, which now has members in every county between Council Bluffs and Des Moines.

The Cass Medical Association was organized several years after the Botna Society and is a county association and a part of the state organization, which is affiliated with the American Medical Society.

Those present were: Dr. C. L. Campbell and wife, Dr. Cullison, Dr. R. A. Becker, Dr. M. H. Lynch, Dr. W. F. Graham and wife; Dr. R. L. Barnett and wife; Dr. E. C. Montgomery; Dr. F. J. Becker and wife; Dr. A. W. Anderson and wife, Cumberland; Dr. Stultz of Wiota. Miss Larson and Miss Lewis of the Atlantic hospital were also guests.

M. F. Stults, Sec'y.

Dallas-Guthrie County Medical Society

The Dallas-Guthrie County Medical Society met at Panora, October 18, 1923. The following officers were elected: Dr. I. O. Bond, president, Perry; Dr. J. A. Pringle, vice-president, Bagley; Dr. S. J. Brown, secretary, Panora.

Dr. Butterfield of Dallas Center, read a paper on Diphtheria and Dr. Sherman read a paper on Psychotherapy.

Decatur County Medical Society

Thursday evening, November 15, a most interesting meeting of the Decatur County Medical Society was held at the offices of Dr. B. L. Eiker in this city. The attendance was good and the interest very great.

Physicians from every community in the county attended the meeting with the exception of Weldon and Decatur, where the physicians were detained by cases which they could not leave. The program was excellent and was deeply interesting to the members of the society in attendance at the gathering. Every number on the program as announced was carried out except the lecture upon diphtheria by Dr. Hurt, of Seymour, who was unable to be here. Medical men were here from Osceola, Murray, Lineville and Russell. Many interesting papers upon medical subjects were read and helpful discussions followed. Dr. R. A. Hills of Russell, spoke upon Infection in the Practice of Obstetrics; Dr. C. E. Lowrey of Osceola, spoke upon the subject, Obstetric Surgery; Dr. M. W. Rogers of Pleasanton, addressed the meeting upon, Local Anesthesia in Surgery, and Dr. C. R. Harken of Osceola, spoke upon Superficial Pyogenic Infections. Every paper was fine and was of

great interest to the physicians. Following the interesting session of the society luncheon was served at the Leon Inn.

The Decatur County Medical Society is one of the most progressive and live medical organizations in the state and its meetings always attract wide attention.—Leon Journal.

Des Moines County Medical Society

Des Moines County Medical Society meeting was held in Burlington, November 14, 1923.

Dr. Alfred Strauss of Chicago presented a paper on Surgery of Abdomen. Mr. Carl Riepe a discussion on the Relation that exists between the Medicine Man, the Constitution and the Judiciary.

An honored guest was Dr. F. C. Mehler of New London, dean of Iowa first district physicians. Other out of town guests were Dr. Geo. A. Kinney of San Francisco, California; Dr. C. W. Gardner and Dr. E. A. Stewart of Mt. Pleasant.

The December meeting of the society will be held at the Hotel Burlington on the 11th. There will be two sessions, one in the afternoon and one in the evening, with a banquet in between.

Hardin County Medical Society

A meeting of the Hardin County Medical Society was held in Eldora at the Grand Theatre. There were present nearly all the physicians in the county, and a number of visitors among whom were Drs. Powers and Long and their wives of Hampton. The papers were unusually fine and the meeting considered one of the best the society ever held. Dr. R. R. Gaard of Radcliffe was elected president for next year; Dr. Nyquist of Eldora, vice-president; Dr. Marsh of Eldora, secretary, and Dr. C. M. Wray of Iowa Falls, treasurer. Dr. Mangin of Iowa Falls was elected delegate of the State meeting and Dr. Cady of Alden, alternate. An invitation to Radcliffe for a mid-summer meeting was accepted. The program was:

Insulin, Its Practical Use, Dr. S. Franklin Adams, Mayo Clinics, Rochester, Minnesota.

Gastric and Duodenal Ulcer and Non-Surgical Conditions of Gall-bladder and Biliary Tract, Dr. J. T. Strawn, Des Moines.

X-Ray Treatment of Uterine Fibroids, Dr. A. L. Yocum, Chariton.

Kossuth County Medical Society

Kossuth county physicians held their annual meeting at the Legion Hall, Tuesday afternoon, October 18, 1923. Those present were Drs. C. H. Cretzmeyer, C. Hartman, Frazer, M. Kenefick and R. M. Wallace of Algona; Drs. J. G. Clapsaddle and W. Peters of Burt; Dr. Pierre Sartor of Titonka, Dr. Guy Anderson of Swea City, Dr. Schuele of Lakota and Dr. J. A. Devine of Bancroft. Miss Upton, a farm bureau demonstration agent, gave an interesting lecture. The doctors have an annual meeting to discuss Kos-

south county health conditions and to take care of business matters.

Linn County Medical Society

The Linn County Medical Society met at Montrose Hotel, Cedar Rapids, Tuesday evening at eight o'clock, December 4, 1923. Dr. Allen Craig, associate director of the American College of Surgery, gave an address on the Hospital Standardization. He explained the three requirements insisted on. 1. Organization of hospital staff, scientific meetings of the staff and ethics. 2. Laboratory and x-ray equipment. 3. Keeping of proper records. After discussion the doctor answered all questions asked by the members.

A committee was appointed by the president to confer with the newspaper men in regard to suppression of quack advertisements.

After the scientific program and business meeting a buffet luncheon was served by the society.

J. A. Valenta.

Marshall County Medical Society

The monthly meeting of the Marshall County Medical Society was held Thursday evening December 6 at the Y. M. C. A. Marshalltown. Dr. M. C. Howard of Omaha, gave a very excellent talk on Medical Biliary Drainage illustrated with lantern slides.

The following officers were elected for the coming year: President, Dr. Edwin Cobb, Marshalltown; vice-president, Dr. A. D. Wood, State Center; secretary and treasurer, Dr. L. H. Launder, Marshalltown. Dr. Wood was elected delegate to the State Society.

L. H. L.

Muscatine County Medical Society

On November 21 the Muscatine County Medical Society held a regular meeting at the office of Dr. V. O. Muench of Nichols, Iowa.

Sixteen Muscatine county physicians were present. Dr. Burns, representing the Children's Clinic of the University of Iowa, outlined the work being done by the clinic, and a request was made by the county society that the clinic be sent to Muscatine county as early in the year as possible.

The code revision was discussed and it was decided that a special meeting be held and that our representative and senator be our guests.

This meeting has since been held and a report has been sent to the president of every county society in the state. It was thought that these conferences would be a most effective means of getting our legislators acquainted with the needs of the general public health, and the legislation that would be to its best interests.

W. H. Johnston, Sec'y.

Pottawattamie County Medical Society

The Pottawattamie County Medical Society held its annual meeting at St. Bernard's Hospital Thurs-

day, November 15, 1923, when the following program was filled:

10:00 A. M.—Address, Dr. H. H. Beye, professor surgery, State University, subject, "The Ultimate Fate of Bone Grafts, Some Clinical Observations." Discussion opened by Dr. Karl Werndorff.

11:00 A. M.—Address, Dr. William Runyon, Sioux City, subject, "Demonstration of Some Practical Methods for Diagnosing Intra-Thoracic Conditions." Discussion opened by Dr. V. L. Treynor.

12:00 M.—Luncheon served at Mercy Hospital.

1:00 P. M.—Business meeting of society.

1:30 P. M.—Address, Dr. Von Schulte, dean of Creighton Medical College.

Paper, Dr. V. D. French, Carson, subject, "Hodgkin's Disease." Discussion opened by Dr. Cogley.

Paper, Dr. H. Moorehead, Underwood, subject, "Another Poliomyelitis." Discussion opened by Dr. A. A. Johnson, Dr. Jack Treynor.

Paper, Dr. M. C. Hennessey, Council Bluffs, subject, Ectopic Pregnancy. Discussion opened by Dr. Donald Macrae.

Paper, Dr. S. Maiden, Council Bluffs, subject, Some Considerations of the Nose in a General Physical Examination. Discussion opened by Dr. D. W. Thompson.

Paper, Dr. William Ash, Council Bluffs, subject, General Paresis. Discussion opened by Dr. F. T. Seybert.

Case reports Diabetes Mellitus. Dr. Erickson-Hill, Dr. V. L. Treynor.

Discussions were made by: Dr. A. A. Johnson, Laboratory Findings; Dr. Jack Treynor, Diabetes in Childhood; Dr. Mack-Hanchett, Function of Pancreas-Insulin; Dr. Grant Augustine, Post-operative Metabolic Disturbances.

Officers of the Pottawattamie County Medical Society are: Dr. F. E. Bellinger, president; Dr. A. A. Robertson, vice-president; Dr. L. G. Howard, secretary and treasurer; Dr. V. L. Treynor, delegate; alternate, Dr. H. B. Jennings.

Sac County Medical Society

The Sac County Medical Society held a meeting in a jury room of the court house in Sac City Thursday afternoon, November 22. Officers were elected for the ensuing year as follows: President, Dr. F. H. McCray of Schaller; secretary, Dr. Jas. McAllister of Odebolt; treasurer, Dr. J. H. Stalford of Sac City.

The society adopted a resolution favoring the merging of the Twin Lakes district medical society, the Carroll district medical society and the Wall Lake District Medical Society and the holding by the united organization of four meetings a year—one at Carroll, one at Wall Lake, one at Rockwell City, and one at Fort Dodge.

At the Sac City meeting a report on the use of insulin in diabetes was made by Dr. W. L. Stillman of Odebolt. Dr. E. E. E. Speaker of Lake View discussed Maternal Impressions. Dr. G. H. Swearingen reported on a case of injury on a high voltage elec-

trical wire. Dr. W. J. Findley of Sac City gave an interesting talk on his impressions at the Tri-State Medical Society meeting at Des Moines.

Other physicians aside from those aforementioned who were present include Dr. A. S. Hayden of Wall Lake, Dr. G. W. Anderson of Early, Dr. W. E. Hart of Odebolt, Dr. H. L. Fobes of Auburn, and Dr. L. H. Jones of Wall Lake.

Scott County Medical Society

The Scott County Medical Society met at the Chamber of Commerce, Davenport, November 6, 1923.

The paper of the evening was by Dr. Don M. Griswold of the State University, on The Wassermann Reaction.

Officers elected—Dr. J. E. Rock, president; Dr. Howard Weis, vice-president; Dr. Paul White, secretary; Dr. S. G. Hands, treasurer.

Delegate to the State Medical Society, Dr. A. P. Donohoe; alternate, Dr. Frederick Lambach.

Tama County Medical Society

The Tama County Medical Society met on Wednesday, November 21, at Garwin. There was a good attendance and much interest was manifest in the proceedings. Dinner was served at 12 o'clock at Hotel Garwin after which the members of the association adjointed to the American Legion Hall where the afternoon's program was given.

The subject of "Appendicitis" was discussed, and profitably so, special emphasis being placed on the necessity of early and accurate diagnosis. Among the physicians of the county who spoke on their experience in treating the disease, including diagnosis and treatment, were Drs. Pinkerton of Traer; Walter Myers and McDowell of Gladbrook; Bried and Pace of Toledo; Lauenders of Garwin; Parsons and Farnham of Traer, and Whalen and Allen of Tama.

Following the adjournment of the meeting many of the physicians motored to Waterloo to attend a meeting of the Blackhawk County Medical Society, where they listened with interest to Dr. Abt of Chicago, a specialist in diseases of children. A number of children, suffering from different diseases, were present as exhibits at the clinic.

Winnebago and Hancock County Medical Society

A meeting of the Winnebago and Hancock County Medical Society was held Monday, November 5. A clinic was held at the Irish Hospital in the afternoon and dinner was served at the parish house in the evening followed by papers by Dr. Randall of the state extension department and Dr. Palmer of Albert Lea.

Austin Flint-Cedar Valley Medical Society

The meeting was called to order by the president, Dr. J. G. Evans at 10:30 a. m., November 13, 1923, at Waverly. The minutes of the last meeting were read

and approved. As the regular board of censors were not present, Drs. Jay Hobson and Goodale were nominated and elected as temporary censors to act on the following applications received at the mid-summer meeting in Waterloo, July 10 and 11, 1923: Dr. J. C. Shellito, Independence; Dr. J. C. McAlvin, Waterloo; Dr. W. H. Acker, Waterloo; Dr. J. H. Butts, Waterloo. The board of censors approved the applications and the applicants were elected to membership of the society. The following applications for membership were received at this meeting: Dr. A. L. Young, Clarksville; Dr. Hans Haumeder, New Hampton. The scientific program was then opened by Dr. L. D. Jay of Plainfield, who read a paper on the Complications of Pregnancy.

A telegram was then received from Dr. W. A. Rohlf, who was ill in the Wesley Memorial Hospital in Chicago, extending to all members of the Austin Flint-Cedar a hearty welcome to Waverly. It was moved by Dr. Auner and seconded by Dr. Brinkman that a day letter be wired to Dr. Rohlf extending to him the good wishes of the Austin Flint-Cedar Valley Medical Society. This was unanimously carried and the telegram sent.

Dr. Crabb then invited the society to hold its mid-summer meeting 1924, at Mason City. Dr. Phillips of Clear Lake invited the society to hold its social sessions in Clear Lake, while it was understood that the scientific meeting would be held in Mason City. It was moved by Dr. Schilling and seconded by Dr. Gardner that we accept these invitations and it was unanimously carried. The meeting was adjourned for lunch.

As the ladies had planned a luncheon, at the home of Mrs. M. N. Gernsey, for a considerable number of ladies and as there were not many present at this time of the day the visiting doctors were also invited to the luncheon, which was most enjoyable. Later in the day a considerable number of ladies were present who enjoyed a very entertaining musical at the home of Mrs. F. A. Osincup.

At 1:00 p. m. the meeting was again opened by Dr. F. A. Osincup of Waverly, who read a paper on The Use of Digitalis. The afternoon program was then given, as printed. The papers were:

The Relation of Focal Infections to the Kidney, Dr. Jennings Crawford, Cedar Rapids.

Intestinal Obstruction, Dr. George M. Crabb, Mason City.

The Pathology of Human Tuberculosis, Dr. Edward L. Miloslavich, Milwaukee, Wisconsin.

The Present Status of Insulin Treatment, Dr. C. A. Waterbury, Waterloo.

Surgery of the Prostate, Dr. V. C. Hunt, Rochester, Minnesota.

All the papers were of unusual merit and discussions were very enthusiastic and were participated in by many of the visiting doctors.

At 6:30 p. m. a banquet was served at the Guild hall which provided all of the hilarity and good toasts of an Austin Flint-Cedar banquet. After the ban-

quet a dance was held in the Guild hall and members present tripped the light fantastic until about 11 p. m.

Mrs. L. C. Kern deserves a vote of thanks for the delightful entertainment arranged for the ladies.

The meeting was most successful both from a scientific and social standpoint and was thoroughly enjoyed by the sixty doctors in attendance.

L. A. West, Sec'y.

Waterloo Medical Society

Dr. Isaac A. Abt, noted pedetritonist from one of the leading medical colleges of Chicago and an authority in child birth, addressed over 100 doctors from Waterloo and surrounding towns at the monthly meeting of the Waterloo Medical Society at Greater Waterloo Association recently. Dr. Abt used as the basis for his theme different cases presented for examination. His talk was along practical lines and upon one of the most important topics in medicine today.

Northwestern Iowa Medical Society

Program of the Northwestern Iowa Medical Society, regular fall meeting, held at Sheldon, November 7, 1923.

1. Typhoid Fever, Clinical Report of Cases, Frank Reinsch, M.D.

2. Early Symptoms of Insanity, H. R. Hummer, M.D., Canton, South Dakota.

3. Legislative Matters, W. W. Pearson, M.D., Chairman Legislative Committee Iowa State Medical Society.

4. Treatment of the Toxemias of Pregnancy, (Home Management), L. M. Randall, M.D., Clinical Assistant, Department of Obstetrics, State University of Iowa.

5. Interesting Conditions Which May Appear in First Few Weeks of Life, Goldie E. Zimmerman, M.D., Sioux Falls, South Dakota.

6. Pyelitis in Children, D. J. Glysteen, M.D.

Officers—C. L. Roland, president, Chatsworth; G. H. Boetel, vice-president, Rock Rapids; Jay M. Crowley, secretary-treasurer, Rock Rapids. Censors—F. J. McAllister, 1926; H. L. Avery, 1923; D. G. Lass, 1924; Peter I. Dahl, 1925. Committees—Local arrangements, W. R. Brock; memorial, F. S. Hough, F. E. Chalmers; consolidations, McAlister (chairman), Corcoran, (vice-chairman), Cram, Winkler, Roland.

Southeastern Iowa Medical Society

The Southeastern Iowa Medical Society met at Burlington, October 18, 1923, with the following program:

1. President's Address, Dr. J. H. Chittum, Wapello.

2. The Deviated Nasal Septum, Dr. D. F. Huston, Burlington.

3. Carcinoma of the Colon, Dr. F. M. Tombaugh, Burlington.

4. The Use of Insulin in Diabetes, Dr. Edwin B. Winnett, Des Moines.

5. The Differentiating Symptoms of Acute Affections of the Abdomen Demanding Surgical Interference, Dr. John E. Summers, Omaha.

6. Pneumo-Peritoneum as a Diagnostic Aid in Obstetrical and Gynecological Cases. Illustrated with lantern slides, Dr. Earl Sage, Omaha.

Dr. Frank M. Fuller, toastmaster.

Dr. W. A. Sternberg, Mt. Pleasant, How?

Dr. C. H. Magee, Burlington, When?

Dr. L. C. Howe, Muscatine, Why?

Local arrangements by Dr. James S. Gaumer, Dr. Charles Ricksher, Dr. Lora D. James.

Southwestern Iowa Medical Society

The Southwestern Iowa Medical Society met in Leon October 19.

A number of noted physicians and surgeons were present. Among them Dr. W. O. Briggs of Omaha; Dr. L. M. Randall of the State University; Dr. Lee F. Hill of Des Moines; Dr. C. B. Taylor of Ottumwa, and Dr. Alfred W. Adson of the Mayo Clinic at Rochester, Minnesota.

Address—Heart Decompensation and its Treatment, W. O. Bridges, M.D., emeritus professor of medicine, college of medicine, University of Nebraska, Omaha, Nebraska.

Address—Eclampsia and Nephritic Toxemia, L. M. Randall, M.D., clinical assistant, department of obstetrics and gynecology, college of medicine, University of Iowa, Iowa City.

Address—Diagnostic and Therapeutic Aids in Pediatrics, Lee F. Hill, M.D., pediatrician, Des Moines.

Address—Otitis Media with its Complications, C. B. Taylor, M.D., otologist, rhinologist, laryngologist, Ottumwa.

Address—The Diagnosis and Treatment of Brain Tumors, Alfred W. Adson, M.D., surgeon, department of neurology, Mayo Clinic, Rochester, Minnesota.

Address—The Growing Appreciation of the Importance of Health Teaching in Education, Miss Edith Countryman, director of health education for the Iowa Tuberculosis Association, Des Moines.

Address—Taxes, F. E. Sampson, M.D., field director, Field Activities Committee, Iowa State Medical Society, Des Moines.

HOSPITAL NOTES

Representatives from thirty Catholic hospitals in Iowa attended the third annual conference of the Catholic Hospital Association, which opened Wednesday morning in St. Bernard's auditorium, Council Bluffs. The opening session began with solemn Pontifical Mass celebrated by the Rt. Rev. T. W. Drumm, Bishop of Des Moines. The Rev. C. B. Moulinier, S. J., president of the national association and Dr. W. P. Hombach gave addresses at

the first meeting, and Rev. P. J. Mahan, S. J., state director of the Iowa conference, discussed the nursing profession and its ideals. Hospital management of diabetic patients is the subject of the first address of the second day, by Dr. G. G. Field of Fort Dodge.

On the program committee for the conference were Dr. W. P. Hombach, Dr. A. V. Hennessey, Dr. M. E. O'Keefe, Sister Mary Thomas and Sister Mary Alberta.

The president of the association Mother Mary Cephas, Cedar Rapids; Sister Mary Olivia of Waterloo, first vice-president; Sister Mary Genevieve, Ottumwa, second vice-president; Sister Mary Loretta, third vice-president, and Sister Mary Aquinas, Davenport, secretary-treasurer.

Dr. F. B. Dorsey and Dr. William Rankin were speakers at the celebration of the day of St. Luke the physician and in the church of St. Mary the Virgin, Rev. E. M. M. Wright, rector. Many of the physicians of the city were unable to be present at the service but the addresses by Doctors Rankin and Dorsey were appreciated by the audience which more than filled the church.

Dr. Dorsey gave a general history of the progress of medicine and told of the many advances which have been made in this science. Dr. Rankin talked on the hygiene and care of children.

The other features of the program included the address by Rev. Wright and special musical numbers by the members of the church.

Twenty Tama county doctors and their wives attended the meeting held in Garwin recently at Hotel Garwin. After dinner the doctors indulged in a general discussion of the diagnosis and treatment of appendicitis.

This was followed by a discussion of the subject of county hospitals, proposing two hospitals, one for the north and one for the south end of the county.

Dr. A. A. Pace of Toledo, Dr. J. A. Pinkerton of Traer and Dr. A. F. Walter of Gladbrook, were named as a committee to investigate the feasibility and probability of the construction of such hospitals. They will report at the next meeting, which will be held in Traer some time during the month of January.

At the annual meeting of the American Hospital Association in Milwaukee, recently, it was stated that the total value of hospital buildings and grounds in the United States is nearly \$2,000,000,000 and the total expenditure annually for maintenance of the 6,000 hospitals is approximately \$525,000,000. A sum of \$350,000,000 will be spent during the next year for new buildings and equipment, it was also stated.

The new unit of the People's Hospital, Independence, was formally opened to the public, Saturday, November 24, and an all day reception held by the officers of the Ladies Hospital Auxiliary. Every one

was invited to call and inspect the building and equipment. Many availed themselves of the opportunity.

Hospital Standardization was the subject before the Linn County Medical Society Tuesday evening at 7:30 at the Montrose Hotel by Dr. Franklin H. Martin of Chicago. Mr. Martin is director general of the American College of Surgeons. The society was the host at a buffet luncheon following the talk.

It developed in the annual meeting of the Ottumwa Hospital Association held December 4, that a reorganization of the association is in progress, preliminary to the erection of a new building, plans for which were prepared some time ago.

PERSONAL MENTION

Dr. W. A. Rohlf of Waverly is rapidly regaining his health and strength, and is now able to spend a part of each day in a wheel chair.

Dr. W. J. Mayo, Rochester, Minnesota: "While sentiment contributed largely toward prohibition in this country, prohibition was not possible until a supply of pure water was at hand. The Panama Canal, viewed in the larger sense, was built by Gorgas. Without his development of a supply of pure water and the elimination of sources of infection, the project would have failed, as it did in the hands of De Lesseps and the French company."

Recently the board of supervisors passed a resolution accepting the bid of Dr. Yavorsky of Belle Plaine to doctor the poor of that city for \$1000 for 1924. Two years ago Benton county paid over \$4,000 doctor bills for Belle Plaine's poor.

Dr. D. M. Ghrist and Dr. J. F. Edwards left recently to attend the meeting of the North American X-Ray Association at Rochester, Minnesota. This association is composed of medical men and scientists interested in the use and development of the x-ray and includes members in the United States, Canada, Mexico and a number from European countries holding associate memberships. The latter will attend this meeting as visitors.—Ames Times.

That Dr. C. E. Ruth, formerly of Keokuk, now of Des Moines, drove the first automobile west of the Mississippi river and not Dave Donovan of Washington, Iowa, is the claim of Dr. Ruth's friends here, who have seen an article in some of the Iowa papers crediting Donovan as driving the pioneer car. Dr. Ruth, it is recalled, drove his little car, called then a runabout, from the Oldsmobile factory to Keokuk and he created considerable of a furor when he arrived with the car which looked like a box buggy on four small wheels, and which was steered by a contraption similar to that on the children's tricycles. Dr. Ruth drove his automobile in the days when the auto took the side of the road and stopped when farmer's teams were coming down the road. Sometimes the horses became so frightened at the me-

chanical wagons that they tried to climb into the new-fangled contrivances, and many runaways resulted from the horses taking fright at the gasoline buggies.—Gate City.

AMERICAN CONGRESS ON INTERNAL MEDICINE—ANNOUNCEMENT

The eighth annual clinical session of The American Congress on Internal Medicine will be held in the Amphitheatres, Wards and Laboratories of the various institutions concerned with medical teaching, at St. Louis, Missouri, beginning Monday, February 18, 1924.

Practitioners and laboratory workers interested in the progress of scientific, clinical and research medicine are invited to take advantage of the opportunities afforded by this session.

Address enquiries to the secretary-general.

Elsworth S. Smith, President
St. Louis, Mo.

MARRIAGES

Dr. Leonard W. Larson of Northwood and Miss Ordellie Miller of Fulda, Minnesota, were married at Fairmount, Minnesota, October 25, 1923.

BIOGRAPHY OF DR. SULA WEBB

Dr. Sula Webb was born in Warren county, Iowa, January 30, 1866, and died in El Paso, Texas, April 5, 1923.

Dr. Webb took her liberal arts course at Simpson College, Indianola, and in 1897 graduated from the medical department of Drake University, Des Moines.

Soon after her graduation she opened her office in Cedar Rapids, Iowa, and there she lived and practiced her profession until a short time before her death, as ill health compelled her to seek a home in the south.

She was a member of the Linn County and of the Iowa State Medical Societies. She became a member of the State Society of Medical Women in 1899, one year after its organization.

She was a faithful conscientious physician, one who did much for the needy and unfortunate, and was most generous with her professional services among this class.

In her home and social circle, she showed her desire to be a real servant to humanity.

The State Society of Iowa Medical Women wish to pay a tribute of regard and appreciation to the memory of this useful and Christian woman.

Signed: Kate A. Mason Hogle,
Mary A. Coveny,
Jeannette F. Throckmorton.

BOOK REVIEWS

PAPERS FROM THE MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH AND THE GRADUATE SCHOOL OF MEDICINE OF THE UNIVERSITY OF MINNESOTA, COVERING THE PERIOD OF 1920-1922.

Octavo Vol. of 716 Pages, with 257 Illustrations. W. B. Saunders Company, 1923.

Cloth \$10 Net.

The distinctive feature of this and the preceding volume of the Mayo Foundation papers, is the fact that nearly all of them were originally in the form of theses presented by graduate medical students of the University of Minnesota, in partial fulfillment of the requirements for the degree of Master of Science or Doctor of Philosophy.

Recently we have had the privilege of examining volumes presented by university or hospital clinics containing the papers prepared by their respective staffs, research and clinical, and have been deeply impressed with the value of contributions by men connected with institutions having an abundance of material and highly developed research laboratories, furnishing facilities for evaluating the various and complicated subjects before the profession, and when we bring these several volumes before us, we feel ourselves in the presence of a great library of knowledge.

In this volume of Foundation papers we find the subjects grouped in a very helpful manner. First, a group of papers relating to the Alimentary Tract, twelve in number, representing as many different conditions, beginning with the Development of the Musculature of the Stomach, with special reference to its Condition in the New Born Child and the Premature Infant, ending with Primary Retroperitoneal Sarcoma; report of twenty-eight cases.

Then we pass on to Urogenital Organs, including twenty-six papers, no two titles the same.

Third division: Ductless Glands. Again the logical arrangement. The Blood Supply of the Thyroid Gland and its Surgical Significance.

Last subject: Studies in Diabetes Insipidus, Water Balance and Water Intoxication. The six papers in this group brings us in contact with most of the subjects in which we are interested.

We now come to a group of subjects in which the medical profession are always interested—The Blood and Circulatory Organs. The introductory paper is Destruction of Transfused Blood in Normal Persons and in Patients with Pernicious Anemia. There are fifteen clinical and research papers, devoted to questions relating to the blood and circulation; examining the titles, we find research to predominate. There are four Skin papers. There are twelve Head, Trunk and Extremities, and also seven referring to the nervous system. Six Organic and Physiologic Chemistry. Eight General Bacteriology. Seven Miscellaneous and four Technic.

The varied and technical character of the papers only permit us to refer to the contents of the volume and not in any way consider the merits of the work, the subjects are sufficient.

An examination of the Index of Contributors and the Bibliograph Index reveals an industry on the part of the editor, Mrs. M. H. Mellish, that is amazing, to say the least.

TONSILLECTOMY BY MEANS OF THE ALVEOLAR EMINENCE OF THE MANDIBLE AND A GUILLOTINE

By Dr. Greenfield Sluder; with 90 Illustrations. C. V. Mosby Company, St. Louis, 1923.

The purpose of this excellent work is to provide a compact manual answering the need of both students and practitioners regarding the method of tonsillectomy by means of the alveolar eminence and a guillotine. Since 1910, when Doctor Sluder first presented his method of tonsillectomy, this procedure has gained in popularity until today the Sluder operation or some modification of it is performed all over the world.

In the first two chapters he discusses development of methods, embryology, comparative anatomy and human anatomy. Chapter three on physiology and general pathology of the tonsil, was written by Arthur E. Proetz, who, in an orderly manner, takes up the subject. Short paragraphs are devoted to each of the theories: protection, internal secretion, hematopoieses, elimination and immunity. He states that if we epitomize our knowledge of the tonsil as it stands today, we are bound to admit that it behaves remarkably like the other lymph glands of the body. Under general pathology the author discusses in detail, acute lacunar tonsillitis, acute follicular tonsillitis, acute peritonsillitis, chronic lacunar tonsillitis, calculus, fibrosis, chronic peritonsillitis, hypertrophy of the tonsil, tuberculosis and syphilis. In chapter four the indications which he gives for tonsillectomy are hypertrophy that obstructs breathing, recurrent tonsillitis, recurrent general sore throat, recurrent lingual tonsillitis and tracheitis, enlarged cervical lymphatic glands, chronic tonsillitis and obscure general disorders, chronic tonsillitis with bad breath and indigestion, focal infections, goiter, and a large group of diseases, the result of focal infection from chronic tonsillitis. X-ray and radium treatment is briefly discussed. This is followed by the contraindications of the operation. Chapter five takes up the operation, choice of method, anesthetic and after treatment. Sluder states that the surgeon should not abandon a satisfactory technic, and then he gives arguments in favor of the Sluder technic which is taken up in chapter six. He shows how the guillotine of the present day is an evolution of the uvulotome of the year 1641. There are numerous pictures of the various models and their improvements up to the perfected model of the present. This chapter is very interesting and of historical value. Many pages are

devoted to an exact discussion of his technic which is accompanied with numerous illustrations. Chapter seven, written by I. D. Kelly, Jr., takes up adenoidectomy with direct vision. The book is concluded with a long bibliography.

This valuable book shows that tonsillectomy is not a minor operation but a surgical procedure and should be performed only by specially trained men.

E. P. Weih.

THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY

Volume I; The Surgeon General's Office. Prepared under the Direction of Maj. Gen. H. W. Ireland, M.D., Surgeon General of the Army. By Col. Charles Lynch, M.D., Lieut.-Col. Frank W. Weed, M.D., Loy McAfee, A. M., M.D. Government Printing Office, Washington, D. C., 1923.

We have before us Volume I of the Medical Department of the United States Army in the World War. This is a magnificent volume of 1389 pages and does credit to the medical officers who were detailed to prepare the work, to the Government Printing Office, and to Congress appropriating the money necessary to print the history. Fifteen volumes are scheduled to complete this great work.

General Ireland in his letter of Transmission, calls attention to the Medical Department when we entered the World War, and to the value of the written record in relation to the future.

It is to be hoped that Congress will appropriate money for the prompt and expeditious publication of these records which will be of so much value to the country.

The medical records of the World War, together with the records of the Civil War, will constitute a library of military surgery of great value. Volume fifteen appeared some time ago and consisted mainly of statistics. As stated then, the volumes will appear in irregular order as the material can be arranged.

The volume before us—Vol. I—relates to the work of the surgeon general's office. The first section relates to the evolution of the medical department and includes the history of wars extending back to the earliest medical records, including the Red Cross medical department units. There is an account of the Personal Division as it existed on April 6, 1917; followed by a detailed account of the personnel of the several divisions from April, 1917, to December, 1919, including Dental, Veterinary, Department of Training, Finance and Supply, Sanitation, Infectious Diseases and Laboratories, Hospitals, Internal Medicine, Neurology, Psychology, Surgery, Roentgenology, Museum and Library, Publication, History, etc., including every form of activity from 1917 to 1919. This section of the book includes 584 pages. The remaining 800 pages includes the War Department Promulgations and includes every variety of information relating to organization, supply and activities.

THE SURGICAL CLINICS OF NORTH AMERICA

October, 1923. W. B. Saunders Company.

This is the Minneapolis-St. Paul number. We have visited through these clinics nearly every surgical center in the United States. But if our memory serves us right, this is the first time we visited Minneapolis and St. Paul via the Surgical Clinics. We recognize old friends and are delighted to meet them surgically. In the first place we recognize Dr. Farr, who always has something new and worth while to say, under the head of Some Helpful Surgical Adjuncts and Methods presents a number of useful things for the general surgeon which are well worth considering.

Dr. Fred L. Adair considers in a well prepared paper Carcinoma of the Uterus. Dr. Gilbert J. Thomas presents a number of Urological cases. Dr. Harry P. Ritchie takes up Some Uses of the Dermal Graft and the Delayed Flap, with helpful illustrations. Dr. Ritchie has given much attention to this class of surgical work. Dr. Geist presents an interesting clinic on Foot Disabilities.

This number is a creditable one and is a fair illustration of the Twin Cities' surgery.

EPIDEMIOLOGY AND PUBLIC HEALTH

Volume Two, by Victor C. Vaughan, M.D., LL.D., Assisted by Henry F. Vaughan, M.S., DR.P.H., and George T. Palmer, M.S., DR. P.H. Published by C. V. Mosby Company, St. Louis, Mo.

This second volume fully bears out the expectations aroused by the appearance of its predecessor, and leads the reader to look forward to the final volume with renewed interest. The diseases discussed are classified as:

1. Nutritional Disorders.
2. Alimentary Infections.
3. Percutaneous Infections.

Two chapters, those on Scurvy and on Beriberi, may, as the author states, be more or less naturally considered as being within the scope of diseases having a material bearing on public health problems, as well as those which Dr. Vaughan includes, with as he puts it, "some hesitation," namely, Pellagra and Rickets. Regardless of what may be thought of the origin of these latter diseases, it would seem only fair to consider them in this connection for similar reasons.

The author calls attention to the fact that Epidemiology is different from, and broader in scope than, Bacteriology, instancing the working out of the epidemiology of Asiatic Cholera before the specific vibrio was discovered, and showing that this is true of other diseases as well.

It is tedious and unnecessary to name all the various chapters. Special interest may be felt in certain subjects, by one reader, while another finds his

attention held elsewhere. Notable subjects are those of Pellagra, because of the discussion which has existed over its cause, the author giving as his opinion an unbalanced and inadequate diet, though he does not consider the question as definitely settled; and Botulism, another disorder which has in comparatively recent times become widely known by the public, is shown as existing and being well described during the eighteenth century in Wurttemberg.

The Typhoid Fevers, Asiatic Cholera, and the Dysenteries and Diarrhoeas, are very fully discussed, the first named being of special interest because of the bearing the disease has had upon the military history of our own and other countries and because of the advance in its management due to investigation by military commissions. Indeed, it might be said that Epidemiology owes a certain debt to war, because of the attention directed to various disease conditions, notably, in addition to that mentioned, Yellow Fever, Malaria and Hookworm Disease. The work of Ashford in Porto Rico was as important in its way as the efforts of Reed and his associates with Yellow Fever.

Some observations of a general nature would seem to be worth special mention. What Dr. Vaughan calls the immutability of epidemic diseases, their way of running true to type throughout their history, long or short, is noted by him at some length, examples given being, tubercle bacilli found in Egyptian mummies are recognizable by modern methods, and the progress of the disease today is essentially the same described in earlier times, the phenomena of pneumonia, small-pox, mumps and others, are further cases in point. Again, Dr. Vaughan considers the fact that lessening of morbidity has until recent years been due, not so much to direct efforts toward that end, as to indirect results from changes in methods of life brought about by a desire for better living conditions in a physical sense. He further mentions some temporary increases in disease caused by industrial changes, as where the development of water power by dams in manufacturing neighborhoods, led to the formation of breeding places for anopheles, mosquitoes and a recrudescence of malaria in those regions.

Relative to the importance of the work done by the Rockefeller Foundation in the eradication of hookworm, Dr. Vaughan quotes the opinion, of a distinguished Frenchman some two centuries ago, that "if the world is to be redeemed from ignorance, poverty and disease, it must be done by preventive medicine."

It should be stated, in considering the many noteworthy features of this work of Dr. Vaughan and his co-authors, that the historical data given, are among the factors which add greatly to the value of the technical matter.

As was mentioned concerning the first volume, the good quality of the paper and the clear letter press, add to the attractiveness of the contents.

Major H. R. Reynolds.

The Journal of the Iowa State Medical Society

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No. 2

THE USE OF X-RAY IN GYNECOLOGY*

MARY ELIZABETH HANKS, M.D., Chicago

Twelve years ago when I began reading the reports of others about x-ray therapy, especially in fibroid tumors, my skepticism equalled any I have ever met. The arguments against x-ray at that time met with my heartiest endorsement, so I cannot condemn those who frankly disbelieve. It was only after observing the effects of x-ray upon a few cases that I was convinced that it was at least worth studying. The doctor who reads recent medical literature has noted the great accumulation of convincing evidence which came first from the clinical centers of Europe. He has noticed also the gradual decrease of adverse criticism, and that now some of its former enemies are giving it hearty support. All this being true, it seems that no time need be given to the defense of a therapy so well established by incontrovertible facts. Now that early doubts and fears have not materialized; that important problems in technique have been solved; that clinical results are prompt, permanent and without accompanying penalties, it would seem that the general practitioner at least should view the matter with an unprejudiced mind. It is surprising, therefore, that through the sanction and advice of the family physician thousands of women are still forming a solid procession to the operating table.

The oft repeated precept that the roentgen ray should not be applied to a uterine fibroid in the presence of complications, is a doctrinal fallacy. During nearly seven years of x-ray treatment of uterine myomata I have been impressed that much good is done outside the main pathology—hence this clinical report.

Prefacing this discussion, it is well to say that my technique is as follows:

Nine-inch spark gap (120,000 volts).

Seven to twelve-inch distance (18 to 30 c.m.).

Five milliamperes.

Five millimeters of aluminum with sole leather, filters.

Five to seventeen minutes time.

The cross fire method is employed through ports of entry from two to four inches in diameter. The number required varies according to the pathology under treatment.

The above outlined technique may not be according to the trend of the times, but in my reading I find the question of dose in benign gynecologic cases is still a debatable one and that the divided dose with the lower voltage is stoutly upheld by my peers.

Professor Holzknecht, for years the leading spirit in the development of the massive dose and its measurement, said (at the Berlin Roentgen Congress)—“Among my cases of strongly rayed myomata five developed hyperthyroidism, four hypertension, two distinct acromegaly and many gave clinical indications of marked ovarian irritation. Whereas, similar cases that were rayed feebly showed surprisingly excellent recovery characterized by the absence of any untoward secondary endocrine effects. It is my belief, therefore, that we do not have the right, simply for the purpose of maintaining a uniform and easily conducted roentgen therapy method, to destroy more in a single case than is physiologically warranted.” * * * “In the treatment of malignant tumors it is wise to seek the single maximum dose; but for all other sicknesses we shall have to return to the medium and fractional dose.”¹ With such eminent authority, my contention is upheld.

Another thing about which we should come to an understanding is the word “cure.” In medical discussions it seems to have such a variety of meanings that it is confusing.

Gauss and Frederick in a recent report of nearly 3000 cases of uterine fibroid, treated with x-ray, rated 95.6 per cent as cured. Were they speaking of symptoms or of tumors?²

John G. Clark, in a recent report of 527 cases treated with radium, after saying, “by no means do all tumors disappear,” said, “—as the majority

*Presented before the Iowa Women's State Medical Society, May, 1922, Ottumwa, Iowa.

of these cases have been treated solely for hemorrhage, with the cessation of this symptom the patient may be looked upon as cured."³

At a recent conference of surgeons "those with the widest experience seemed to feel that a larger proportion of patients will be cured by an operation than by radio therapy." That is, the patient comes into the hospital with a tumor, goes out without it and is alive.

As roentgenologists, being under critical observation, we must be more accurate. A patient "cured" should mean that the pathology under treatment is no longer demonstrable; absence of symptoms; a return to normal health. In this report the word "cure" is used advisedly.

If we review the tissue changes induced by x-ray it becomes more apparent why it is so accurate and dependable in a variety of pathologies found in gynecologic practice and so harmless. Briefly stated:

1. Ovarian stimulation is inhibited. The ripe and ripening Graafian follicles are functionally destroyed: the primordial follicles are later affected if the application of x-ray is prolonged. This produces a permanent amenorrhœa. The internal secretions seem not to be affected in the average case, if the small ovarian dose is employed (Seitz and Wintz-Hirsch, Holzkecht).⁴ This is evidenced by the mild menopausal symptoms and by the absence of obesity. This fact has been noted by several authorities. Eden and Provis of London observe "that there is no corpulence nor psychologic change."⁵

2. Glandular tissue at first is stimulated, but if the ray is continued the secretion gradually disappears. This applies especially in this report to the utricular and cervical glands. Hypertrophy of the mucosa is reduced.

3. The endothelial lining of the capillaries becomes edematous with a resulting endarteritis obliterans.⁶ This lessened blood supply, induced artificially by the x-ray, naturally occurs in the female pelvis during the menopause.

4. In myomatous growths the cells, especially the nuclei may at first show hypertrophy, later vacuoles occur, then the nuclei are obliterated. Finally nothing is left of the cells but detritus which is carried away by the leucocytes. Connective tissue takes the place of cells.⁷

It is a mooted question whether the changes in the tumor cells, noted above by Simon, are a direct effect of the x-ray or indirect through the ovaries. That the changes do occur is not disputed, which is more pertinent to this study.

The following are the conditions remedied:

1. *Adhesions*, it was early noted, are reduced by x-ray. Also, indurated inelastic tissues throughout the pelvis approach the normal and a free circulation of the lymph and blood is promoted. Tumors of the uterus bound down by perimetric adhesions become freely movable in most instances. This was early demonstrated by such men as Fraenkel who characterized it as a "welcome addition to our armamentarium."⁸

2. Small ovarian cysts originating in the Graafian follicles (follicular cysts) are favorably influenced by x-ray. These cysts are usually due to a fibrous condition which prevents their rupture. Under the favorable influence of x-ray (or high frequency) they gradually recede. This is repeatedly seen during the treatment of fibroids and though we expect it, we never prognosticate it. The large ovarian tumor of any sort is never remedied by x-ray and is at once surgical.

3. Non-malignant diseases of the cervix, such as erosions and degeneration of the cervical glands are very favorably influenced by x-ray. In my experience no case has failed to come into perfect health, and the accompanying leucorrhœa gradually disappears. Some of the erosions have been chronic and threatening (and these are always potential carcinoma) but if they are thoroughly rayed before actual malignant change occurs, their response to treatment is prompt and satisfactory. To date not one has retrogressed.

4. *Pruritus vulvæ*. The most common cause of pruritus is leucorrhœa. During and after the menopause it is often a slight watery excoriating discharge that is almost imperceptible. It is of different character, however, if from erosions, cystic degeneration of the cervix or from a hypertrophic endometrium. My technique is based on a consideration of the pelvis as well as of the pruritus. In the average case a series consists of one or two suprapubic exposures including the entire uterus. Then the pruritic area is given approximately the same dose. Every three weeks this inclusive treatment is repeated for five or six times.

The results are quite uniform. The average case comes into prolonged relief or cure. The intervals between treatments should not be more than three weeks or the results are less accurate. Relapses may occur if the leucorrhœa returns or if the patient suffers severe nervous strain or depressing experiences.

5. *Dysmenorrhœa*, those uncontrolled cases so disastrous to normal living and health, make up one of our most satisfactory groups. These have usually tried all forms of medical treatment, and all the remedial surgical procedures. They are

pathetic examples of many failures, and if they are not drug habitues it is fortunate. X-ray in fractional doses should be employed even in young women. In these, moderate doses and long intervals between series will sufficiently delay the menopause that the shock is negligible. After the menses disappear it is good to see the long period of semi-invalidism end and the woman resume her living-making occupation and her normal place in family life.

6. A troublesome menopause, prolonged, nerve-racking, with its long train of distressing symptoms should be terminated by x-ray. At this time the generative organs so readily assume the characteristic atrophic state that three series usually suffice. Not only for the good of the individual but for the benefit of the entire family this woman should be brought into a more normal attitude toward her surroundings.

7. Hemorrhage of the menopause is promptly controlled by x-ray which is almost specific in any of the more common etiological conditions, as fibrosis, hyperplasia of the mucosa, chronic endometritis or endocrine unbalance. If in doubt as to malignancy, a careful diagnostic regime should be followed.

8. Sterilization is sometimes justified. Physicians and other humanitarians recognize that certain types should not reproduce their kind.

I have now under treatment a woman of thirty-five who is fighting for her life because of an extensive tuberculosis. She has three small children whom she must attend. On medical advice she has had two pregnancies terminated. She has now a severe hemorrhage from an enlarged retro-placed uterus. Her urgent needs are two, the elimination of hemorrhage and of fecundity. I fully concur with her physician in that solution to her problem. Not only is it warranted in a pathetic case of this nature, but it is my conviction that x-ray sterilization is proper in habitual criminals, degenerates, sub-mentals and in those who pass on to their progeny syphilitic blemishes. These people would submit to x-ray when they would refuse surgical sterilization. Roentgenologists can be of distinct service in helping to eliminate undesirable elements from the over-burdened human race. So urgent is this work that it has become an emergency and it should be recognized and authorized.

9. *Uterine Fibroids*—A well selected case yields most satisfactorily. In the treatment of myofibromata the contraindications are of prime importance. Because of them I refuse not less than 25 per cent of the cases that come to me.

a. Pedunculated tumors are unsafe and should be operated.

b. Submucous tumors are unsatisfactory, provoke complications and are surgical.

c. A tumor associated with severe anemia, much tenderness and with history of chills and fever is probably necrotic and is at once surgical.

d. A chronic tumor that suddenly grows rapidly may be undergoing some form of degeneration and is better operated.

e. A tumor associated with ovarian tumors (not simple follicular cysts) belongs to the surgeon.

f. A suspicion of malignancy puts the case into the hands of the short wave expert, the radiologist or the surgeon or all of them.

g. A tumor associated with gonorrheal infection, with salpingitis or pyosalpinx, is reduced but the infection is not benefited by x-ray.

h. A large non-vascular tumor made up mainly of connective tissue, and does not bleed, is unfavorable for excellent results with x-ray though these cases may yield good results as to health and comfort.

i. A woman who desires children, whose subserous tumors can be enucleated, is a good subject for myomectomy.

Errors in diagnosis are made by the best gynecologists but if we remember that any tumor not materially reduced after two or three series of x-ray belongs to the surgeon, we shall consume little time in error.

In making a survey of one hundred forty cases of uterine fibroids, you can appreciate that it has been impossible for me to follow personally each one. I have arrived at my conclusions by records showing the character and tendencies of the tumor, by a knowledge of the conditions at the termination of treatment, by subsequent examinations when possible and by reports from the physician referring the case. A large majority of the cases submitted today have had confirmatory diagnosis made by other physicians.

This series includes tumors which vary in size from the smallest admitting of diagnosis to one the size of a full term pregnancy. (This woman's physician tells me her tumor is greatly reduced; that she is married and is keeping boarders.) We should not permit size of tumor to occupy too important a place in estimating prognosis. Large tumors, conforming to the favorable type, may be successfully treated. One tumor which came an inch above the umbilicus has entirely disappeared, but this is unusual and is not always to be expected. A small indurated tumor, with no history

of hemorrhage, recedes slowly and may not disappear.

The best case for treatment is the intramural myoma that is hemorrhagic, that is not complicated, that grows below the umbilicus, that occurs in a woman of forty years or more. These cases, if the treatments are skillfully applied and are continued long enough, will yield almost 100 per cent in good results. It is this group that furnishes a large per cent of our cures, and this group is about 72 per cent to 75 per cent of all cases. Lately I have been employing longer time with increased distance and I am convinced that our per cent of cure will be augmented.

Our chief aim, however, should not be to make amazing records. There are cases that will not yield perfect results as to the disappearance of the tumor and yet may properly belong to the roentgenotherapist. This class is made up of women who are not good surgical risks; or of those who can not turn aside the exacting demands of home or business; or of those who are positive that they will not submit to surgery. After a full understanding as to prognosis all these should be given a choice of procedure if the end results of x-ray promise a relief of symptoms and a return to reasonable health.

If one would attain the greatest success, he must become expert in diagnosis; must select his case with care; and must make careful records of each case. If these are constant factors I concur with Doctors Eden and Provis of London who conclude their report by saying that the risks of failures with roentgen ray treatment in suitably selected cases are so small as to be negligible.⁹ In this there seems to be a general agreement among our most experienced and careful roentgenologists (Hirsch, Geist, Pfahler and others).

To show that time is one of our greatest allies, my first thirty cases are now, as far as I can possibly estimate, about 80 per cent without palpable tumors. These were chiefly from my private practice. After the first thirty a less promising group was offered to me, such as poor surgical risks, cases in which relief only was prognostigated. These cases can not be rejected and are entitled to the benefits of x-ray, but they reduce the per cent of cures that my earlier records show.

Of the one hundred forty cases about 75 per cent now show no demonstrable tumors. The cases remaining are classified as follows: Those that give promise of soon entering the no-tumor class: those that are free from symptoms and have excellent health in spite of the small tumor mass remaining: those who are markedly re-

lieved, general health improved, no hemorrhage, tumor much reduced in size, but not promising as to permanency of health and further decrease in tumor. Of the eight in this class, three died several months after treatment was concluded. One of chronic heart disease, one from intestinal cancer not associated with the small remaining tumor, one from pneumonia.

The six unfinished cases were those who became discouraged or alarmed and sought relief elsewhere.

There were four failures.

To discuss my failures is more to the point than to enlarge upon my successes. The three that came to operation were all mistakes in diagnosis. Not easy cases to diagnose I contend, but mistakes. There was one myxomyoma, especially interesting in that she became pregnant after four series of x-ray and an operation; went to full term and gave birth to a normal child: one fibrocystic tumor of ovary occupying the median position: one cystadenoma of the ovary. I still believe that the last named case had a fibroid earlier. The diagnosis was confirmed by two other physicians. Once I told the patient to return in three months when the tumor would probably be gone. After four months she returned with a tumor larger than the original, but it was very different. It proved to be, not a cystic degeneration of the remaining fibroid as I at first believed, but a cystadenoma of the ovary. The fourth was one of two in my entire experience that was not relieved of hemorrhage. The large tumor unsuited to x-ray was complicated with a severe hyperthyroidism. The woman was a very poor surgical risk. After much x-ray, and three applications of radium in the uterine cavity, the hemorrhage is apparently controlled. Though the woman still has a tumor much reduced she is in excellent health today; but as her future is more or less uncertain, I am still including her among my failures.

After six and one-half years it gratifies me to say that to my knowledge not one of over 165 cases treated by x-ray has developed malignancy, either sarcoma or carcinoma. This gives me, however, no false security.

On previous occasions I have expressed the belief that x-ray remedies the precancerous state and may even arrest the incipient cancer that has escaped detection. This has now become a conviction, and is in accord with others of wider experience and with better facilities for accurate observation.

To scare a woman into operation by holding up to her the danger of malignant degeneration is unwarranted and unfair.

Dr. John G. Clark said, apropos of the danger of sarcomatous degeneration in myomas: "I am glad, indeed, that Dr. Lawrence has brought into the discussion the perennial question of malignant degeneration in myoma. If there was ever a fallacy that should be annihilated, this is one. The frequency of sarcomatous transformation in myoma, is so small as to be negligible. It is quite possible," he continues, "to take out of any fibroid tumor isolated areas which could be mistaken for spindle cell sarcoma—I am sure, therefore, that the discrepancy in diagnosis lies in this difference of opinion."¹⁰

As to associated carcinomas and adenocarcinomas there is always a larger per cent. Cullen, Johns Hopkins (J. A. M. A., May 27, 1922), finds one per cent in the cervix and two per cent in the body of the uterus.

The assumption that a cancer operated is gone forever or that operating for myoma entirely disposes of the danger of cancer is fallacy. Wm. Mayo says: "Leaving the cervix leaves an average cancer liability. We have seen sixteen cases of cancer occur on the left over cervix more than five years after supra-vaginal hysterectomy." (Northwest Medicine, Aug., 1922.)¹¹

E. Essen Moeller reports 700 operations for myomas followed by the development of 22 malignancies. This is 3.14 per cent.¹² On the other hand Franque reports roentgen treatment of 200 myomas, followed by malignant degeneration of only one. This is one-half of one per cent.¹³ Moeller operated 700 with 22 malignancies. Franque rayed 200 with one malignancy. If x-ray has no advantage over surgery Franque would be entitled to six (6.28 per cent) cases of malignancies instead of one. It is clear why he thinks "the roentgen ray tends to ward off cancer."

We might add indefinitely to the above argument, notably Dr. Pfahler's statements, the records of the Presbyterian Hospital, New York (Corscaden), the reports from the Mayo Clinic (Evans), Mt. Sinai Hospital (Geist), and others.

In the type of cases herein described, we have preferred x-ray to radium for the following reasons:

First—In fractional doses the x-ray gives time for readjustment and does not suddenly precipitate the menopause.

Second—The larger tumor is more successfully reduced by x-ray.

Third—X-ray controls a larger per cent of hemorrhage. In the cases under consideration only two were refractory. This is less than one-

half per cent failure, while radium shows 3 per cent or more.

Fourth—The danger of x-ray in experienced and careful hands is negative, while radium in the hands of the best radiologists may be followed by serious results.¹⁴

Fifth—Roentgen ray can be successfully applied without loss of time, inconvenience or discomfort and without hospitalization. It is, therefore, more economical. Radium patients require an anesthetic and should remain several days in the hospital the same as any case of curetage. Dr. John G. Clark insists that symptoms are not safely over in twenty-four hours and his patients remain in the hospital as a rule five days.¹⁵

Sixth—The roentgen ray covering a wider field is more inclusive of possible pathology and better stimulates the lymphatics.

No burns have thus far marred our records. This proves nothing except that it is so possible to systematize precautionary measures that accidents are eliminated. In some states a burn presupposes neglect in the eyes of the law. No further evidence is required. It is undoubtedly true that a burn shows conclusively that some one has blundered. Our doses are carefully estimated, the filters are actually in place, the time is checked by two timers, the port of entry is closely fitted with circles of lead, each port is numbered, indicating the order of exposure. The patient is constantly under observation and both my assistant and myself are keenly alive to our responsibility.

In conclusion: Why in benign gynecologic cases has not x-ray come into the good repute that it deserves?

The legitimate criticisms launched at us by some of the best in the profession warrants our taking a little time for serious consideration.

Surgeon-gynecologists are not losing their opportunity to make comments from which we must learn.

It is true that many x-ray technicians as well as physicians are treating women said to have tumors, without an orientation of the organs of the pelvis, without a knowledge of associated pathology, without even an attempt at diagnosis and prognosis. They simply set the machine, aiming at a probable target, and throw the switch. The doctor referring the case no doubt did give the order for x-ray. Technicians and nurses should be limited to that order, but a physician trained in an exacting specialty should not take such orders unless in his judgment the case conforms to the demands of his specialty.

A definite knowledge of the actual pelvic condition before treatment: the moral stamina to

refuse the unsuitable case: recorded estimates of progress during treatment: and a sort of a protectorate over the case after treatment—these are the only convincing answers to our critics.

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ACUTE MASTOIDITIS—ITS PREVENTION AND TREATMENT*

CHARLES B. TAYLOR, M.D., F.A.C.S., Ottumwa

Mastoiditis, with its vast unfolding of knowledge to the student, can hardly be called an unmixed blessing to anybody.

Its pathway is beset with thorns and stones even to the man who would crusade against it or who would live by it.

The aurist gets his greatest satisfaction if he is by nature a gambler.

After he figures his percentages, which all real artists of the "national game" do, the cards read to him four to six against or thirty-seven to fourteen for him. This is his preoperative diagnosis.

The height of the stack of lovely round discs in front of him at the end of the game is his post-operative diagnosis. He is perfectly willing to sit up all night if he can say in the morning that he won—that his post-operative diagnosis parallels his preoperative diagnosis.

Not many real surgeons would remain surgeons long if all the appendices were looking right up into their faces when the belly was opened and no uteri showed adhesions. The surgeons would be ashamed to take the money and would turn to the game with more chance. It is the uncertainty of the hand that he holds that quickens the heart and stimulates thought.

I know of no place where this principle is more truly worked out than in mastoiditis.

You think that you hold a winning hand and to your chagrin you learn that four kings are not quite good enough. You feel that you hold a losing hand and learn to your satisfaction that a pair of tens are under the money. So real surgeons are willing and even anxious to play the mastoid game.

Every otitis media is a potential mastoiditis. With additus ad antrum and antrum as integral parts of the tympanic space, antritis is about as common as otitis.

But as the pneumatization process becomes more complete in the development of the temporal bone, then the antrum, if it is at all neighborly inclined, will be more than delighted to send its measles and scarlet fever children, whatever they are, and its diplo-streptococcus over to visit the pneumatics. They sort of take to the neighborly spirit of our fathers more than to our present day aloofness.

To know when these cells become involved; and whether they are simply congested; or whether filled with pus; or whether the cells are breaking down—and all this going on inside a bony roof of real density—to know, I say, just what is going on, is a real chore.

A good lawyer—and there are some—generally will bring dissenting factions together and thereby prevent litigation. If he charges for that service what he would have charged had he become the trial lawyer—the dissenting parties will probably both win.

The good aurist does not want to see that child mutilated and the entire family regime disarranged and so he sets about early to prevent otitis by teaching his people how to care for their noses when they have colds and grips and scarlet fever and measles and adenoids. And if the otitis and antritis come, and even some mastoid involvement is present when he first sees his patient, he still may have a simple procedure at his command by which he prevents the painful and mutilating and expensive major interference. A wide myringotomy from bottom to top is a money loser to the aurist for the time being—but is a star producer in his crown of glory.

The dictum "when in doubt—operate" is the only teaching that some aurists have apparently ever caught—they are always in doubt—therefore they always operate. I am not by any means one of the not guilty who would be willing to "throw the first stone"—but I do believe that there are now two mastoids operated where only one should be.

*Presented before the Seventy-First Annual Session, Iowa State Medical Society, Ottumwa, Iowa, May 9, 10, 11, 1923, Section Ophthalmology, Otology and Rhino-Laryngology.

With this long preliminary—sort of covering the ground in a figurative way I will return to normal.

I will take up the question of causation and the advantages of bacteriological examinations in all acute infections of the middle ear and the mastoids.

Measles, scarlet fever, grip, flu, adenoids, simple colds, any sort of tonsillar and naso-pharyngeal infection that might be isolated or not isolated by the ordinary bacteriologist, as we may have him at our command, may be the cause of otitis media.

But the work of Neufeld and the Rockefeller Institute have shown that the pneumococci which with their four different types, can be differentiated from one another serologically only, are with the streptococci the prevalent cause of middle ear infections.

Boulay and Winter state that the streptococci and staphylococci are the microbes constantly found and that after these are the pneumococci. In their judgment the pneumococci predominate in the infant, as the causative factor of acute otitis media and mastoiditis.

If our smears or culture tubes show pneumococci or the streptococci—especially the hemolyticus—then we are forearmed and forewarned for trouble.

We know then that we are dealing with germs that are cosmopolitan. They have the wunderlust. They are explorers and pioneers. They want never to “stay put;” not willing to remain “in statu quo.” They are marauders, pirates, buccaneers, bolsheviks. They do not play at war—they war to kill. This may be due to the fact that they produce toxins which break down immunity—but this much sure—they run riot. With such a foe as this a “watchful, waiting” policy is fatal.

With some of the simpler microorganisms of the staphylococci and the catarrhalis bacillus types—waiting may be the better policy—for they tend to localize—domicile—where they can be policed.

Given an ear drum that is red along the long and short handles of the malleus and around the border of the drum head—with little or no fever, little pain or perhaps feeling of fullness—but no definite bulging—and this has all followed an acute rhinitis or irritable pharyngitis, shall we do a myringotomy and make a culture? If it is as I have presumed it—we should not cut the drum but should treat it tentatively—watchfully waiting.

Given an ear drum that is all red and bulging, with or without pain, with considerable tempera-

ture, deafness, with tenderness on pressure in front of the tragus—then if we fail to do a myringotomy—providing that we have the consent of the patient—we have failed in our duty. And we should culture every one so opened. It should become a matter of routine for us to culture. It should become a fixed habit just as it becomes a fixed habit to write the preoperative diagnosis and post-operative diagnosis and what was done.

I find myself lost now—not able to do anything else until I have so written my diagnoses. But it has not been so for long. It is just part of the thing when it becomes the habit.

It will be just as easy to have culture tubes at hand when an ear is opened or when a mastoid is opened.

If our culture shows pneumococci or streptococci, particularly the hemolyticus, then we will know that “uneasy rests the crown” until they have been eradicated. For what they want to do is to travel far and wide and spread havoc as they go.

A wide myringotomy with careful after-treatment may halt the process and limit it to the tympanic space or perhaps what is more nearly correct, to the tympanic space and antrum and eventuate a complete cure without mastoid or further involvement.

But there is a certain definite percentage of cases in which the streptococcus have so persisted in their onslaught that in spite of a free myringotomy they go on and involve the cells of the mastoid to such a degree that the cell walls are broken down, the cells themselves a mass of debris and on x-ray examination the whole mastoid a unit of darkness. Generally pain is present. It may radiate to the front or to the back of the head. It may be dull in character and constant or it may be intermittent and acute and lancinating.

There may be no tenderness over the mastoid or there may be slight or marked tenderness on pressure.

Sometimes the x-ray may show that only one portion—the upper or the lower portion of the mastoid is involved.

At this point I want to emphasize the value of the x-ray in all adult cases—or in all cases where the mastoid is fully developed.

It is almost universal that if in the development of the mastoids any one of the three types—sclerotic, diploic or pneumatic—obtains on one side it will obtain also on the opposite side.

In our history getting it will be well to learn if there has been an old mastoid involvement in either side which might have left an eburnated bone that might be confused with a normal sclerotic type. This must necessarily be taken into

consideration in a comparison of the two sides.

But in case there has never been a previous involvement of either side and we have one side now acute and are suspicious of a decided involvement of the cells—an x-ray of both mastoids carefully read and compared will tell, in almost every instance, the degree of involvement. This is denied by many but I believe that the fault lies either with the pictures or with the readings.

The readings are not so satisfactory in the sclerotic as in the diploic and pneumatic types. This is self-evident as in case both mastoids are normally heavy an infection will not increase much their density. But it is seldom that the bones are normally so dense throughout that an involvement with pus and its concomitant destructive processes will not manifest itself in a changed picture.

Sometimes the major portion of the mastoid is sclerotic or diploic but a large tip cell is present. Now strange to say that if a large tip cell is present on one side it will most likely be present on the opposite side. An x-ray shows the suspicious side dark at the tip while the well side shows a large pneumatic cell. I had a case not long since which illustrated this perfectly and at operation was found to be just as read.

I am for the x-ray and believe that the more we study it the less will we condemn it.

Schumacher says: "In roentgenologic examination of first degree mastoiditis—the cell outline is diffuse and hazy. In second degree mastoiditis, the haziness of the cell outline is increased and extends over the entire area. There is usually some point in the posterior superior angle of the temporal bone or in the body of the process where the outline is lost completely. When destruction of the cell outline becomes general, as is the case when the mastoid has begun to break down, the process is said to have reached the third degree. During either of the later stages the inner cortex may become eroded, with abscess formation about the lateral sinus."

Hinemann says: "His work is based on 190 bilateral views of all possible pathological conditions selected from material collected at the Dusseldorf Ear Clinic since 1912. The roentgen ray findings are compared with clinical history in each case. The different processes and stages in inflammation of the mastoid are portrayed in a characteristic manner in the roentgenogram." (Please get that.) He says further: "More important is the information gained from the roentgenogram as to the indications for operation, and the time at which operation should be performed. The solution of this question lies in the confirmation of the breaking down, which is the turning

point in the course of an acute inflammation and can be clearly demonstrated in the roentgenogram. Therefore, a roentgenologic examination should be made routinely before opening a mastoid, and the decision as to operation should be based chiefly on the roentgen ray findings." He uses altogether Winkler's oblique exposure.

It has only been a short time that my clinical symptoms were so positive that I unhesitatingly made the diagnosis of mastoiditis. The x-ray did not show cells broken down but there was cloudiness of the mastoid area. A wide myringotomy had been made two days earlier and yet the temperature persisted—ranging as high as 103—ear was discharging at a fierce rate; tenderness persisted over mastoid and some swelling.

Operation revealed hemorrhage into all the cells but only one small cell and that near the antrum that had any pus in it. Culture showed diplo-streptococcus.

I would not advise that we abandon all clinical symptoms and rely upon x-ray exclusively any more than I would advise that the general surgeon abandon all clinical symptoms and rely upon blood count in case of some abdominal disturbance, in either case the surgeon so doing would need a referee; but I do insist that x-ray in conjunction with clinical symptoms is of supreme import in all mastoid diagnoses. It should not be overlooked.

I shall not enter into a discussion of the complications that may arise in connection with mastoiditis. We must know that there is the possibility of sinus thrombosis and know how to deal with it. We must know that cerebral or cerebellar abscess is one of the possibilities and that operative interference is possible. Laborynthitis may be a complication and to know when to operate and when not is the part of surgeon and to be sure to recognize it when present is important. Facial paralysis may be superimposed upon a mastoid by an involvement of the facial as it traverses the fallopian canal.

Fortunately these complications are all comparatively rare and yet one German author states that in his experience he has seen one case of laborynthitis in each seventy cases of otitis media. This would seem most unbelievable to most of us, but if it approximated the true ratio it would make us very much more watchful of all cases of otitis media and mastoiditis.

I take it for granted that you gentlemen know how to open a mastoid that must be opened and how to clean out all cells that are involved. Perhaps there are cells that cannot be reached, especially in those temporal bones that have pneumatic cells extending into the body of the petrous

portion. A general cleaning of all involved cells is what is essential to good results in mastoid surgery.

I do want here to advocate dispensing with the wound packing. It is plainly barbarous treatment to the patient to be compelled to tolerate the repacking from day to day.

Personally I am confident that it prolongs convalescence—both as to healing of the wound and as to the recovery of the nerve balance that may enable the patient to have his normal muscle tone. Is there any reason against the use of the simple drainage tube—not to irrigate through but for drainage alone? I apply suction if it clogs and do all my irrigating through the ear.

Convalescence has been lengthened during this grip season—the microorganisms seemingly being especially vicious. But the ordinary convalescent period need not be much beyond two weeks to produce a complete healing. I use the small drainage tube, fenestrated, in all acute cases. I can see no reason for a return to the packing. There is no pain on dressing and convalescence has been shortened.

PYELITIS OF PREGNANCY*

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Pyelitis of pregnancy is a relatively common complication of this condition. In spite of its frequency it is only in recent years that it has received consideration from the specialists in obstetrics and is not yet fully understood by the general practitioner. For several years past we have been interested in this condition and it is with the idea of summarizing the present knowledge on the subject that we are presenting this paper.

The condition is usually manifest by an acute febrile reaction accompanied by pain in the back, on one or both sides, together with chills and pyuria.

Etiology—There are conflicting views as to the underlying etiological factors and we find the investigators along this line divided into two groups. The French school considers that the infection in the pelvis of the kidney results from organisms which have gained entrance into the blood stream and are excreted into the pelvis by the kidney. This view is based on rather unconvincing clinical observation in which positive blood cultures were found in patients showing typical pyelitis lesions. However, these were not found until after the re-

action of the pyelitis had manifested itself, and could as easily be explained by assuming that the bacteria had invaded the blood stream secondarily to the pyelitis.

The German school, on the other hand, claim that the infection of the pelvis of the kidney is the result of an ascending infection in the urinary tract, present either before or after the start of the pregnancy.

The arguments advanced for the correctness of this view are that organisms are frequently found in the bladder of normal pregnant women and conditions favorable for their growth and increase in virulence are frequently seen, namely altered relationships in the position of the bladder and ureters due to the displacement by the enlarging uterus and congestion and edema of the mucosa of the bladder and ureters.

Among the numerous predisposing factors that have been adduced is primiparity. Franz states that the condition occurs twice as frequently in these women. Vineberg upon the other hand, states that the condition is equally frequent in multiparæ. The age incidence shows the condition to be more frequent in the third decade but numerous cases occur before and after this period. The right ureter is affected more commonly than the left. Some authors give as high as 90 per cent occurring on the right side. The reason usually given for this is that the uterus most frequently deviates to the right side as it rises into the abdomen. It therefore tends to compress the right ureter more than the left thus producing more stasis and favoring the development of organisms if present. This view is supported by the autopsy findings of Jolly who found 75.6 per cent of the dilated ureters in pregnant women on the right side, 6 per cent on the left side and 18.3 per cent bilateral. Olshausen found the ureters dilated in twelve out of twenty-five cases of pregnancy that came to autopsy and of these only two dilated ureters on the left side. Kaltenschnee studying the ureteral peristalsis found that the contraction interval averaged 17.3 seconds longer on the right side than on the left. E. Kehrer found that an intra muscularly injected dye appeared ten to fifteen minutes later from the right ureter.

Cumston declares that ureters are never dilated below the brim of the pelvis because they are not compressed by the uterus. De Lee on the contrary believes that because of the almost equal specific gravity of the pregnant uterus and the rest of the abdominal content that it is extremely unlikely that it produces pressure on and stasis in the ureter.

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Another predisposing factor frequently mentioned is that cystitis and pyelitis is very common in girl babies. Kermauner quotes Gopperts as having found 89 per cent of nursing girl babies to have pyelocystitis and 20 per cent had relapses. Several had persistence of the condition without symptoms under treatment and it is this type of case that might light up in later years when the woman became pregnant. Quinby quotes Jeffreys to the effect that of sixty cases only twenty-one were cured.

Antiperistalsis has been described by Volker who found kolargol aspirated out of the bladder into the ureters. He sought to explain the infection of the pelvis by assuming that a chemical irritation of the papillæ of the ureters by bacterial and chemical toxins produced the antiperistaltic wave.

Mirabeau is of the opinion that the congestion of the mucosa of the bladder and ureter which occurs as a part of the general congestion of the pelvic viscera in response to the stimulation of pregnancy, contributes not a little to the stasis in the ureters and thus allows organisms present to initiate an inflammatory reaction.

Chronic constipation, so common in pregnant women, has been pointed out as a predisposing factor in the development of pyelitis for two reasons. First, the intestinal stasis permits organisms to gain access to the blood stream more readily causing a bacteriemia and they are then excreted by the kidney into the pelvis. Secondly, the anastomosis of the lymphatics between the ascending colon and the ureter increases the probability of transfer of organisms from the bowel to the pelvis of the kidney when stasis is present.

Distortion of the bladder by the rising up of the uterus out of the pelvis and by the pull thereby created on the interureteral ligament in the trigone results, according to McDonald, in an abnormal opening of the ureteral orifices—"Golf-hole ureters." Furthermore, this distortion produces a tendency to residual urine in the bladder, a factor that has been recently emphasized by Curtis who feels that residual urine permits of the rapid multiplication of the bacteria present in the bladder and hence, increases the probability of ureteral invasion.

Mayer has emphasized the general predisposing factors such as anginas, respiratory infections, exposure to cold, etc.

Whatever of these factors is the most important I believe that they all have some bearing on the pathogenesis and when present in a given case furnish favorable conditions for the exciting organisms to create the pathology.

The exciting organisms are most commonly the colon bacillus and the staphylococcus and less commonly the streptococcus and the gonococcus. A few cases have been reported with less common organisms, such as *B. paratyphosus*. By far the most constant organism found is the colon bacillus, either alone or in symbiosis with other organisms. Thus, Ward found colon bacilli in forty-four out of sixty-six cases, Lenhartz in sixty-six out of eighty cases, Albeck seventy-six out of ninety-two cases, approximately 80 per cent.

Pathology—The gross pathology varies with the severity and length of time the condition has been present in a given case. The kidney may show marked changes from a toxic nephritis to a pyonephrosis. Usually there is found some inflammatory reaction in the cortex, with or without, the development of interstitial changes depending on the length of time the condition has been present. The medulla is often the seat of round cell infiltration and the tips of the papillæ may be somewhat flattened due to distention. At times there is formation of small abscesses in the parenchyma of the kidney which when they coalesce may give rise to complete destruction of large portions of the organ.

The pelvis itself is dilated, often holding as much as 80 to 100 c.c. of fluid which is frequently a turbid urine containing many pus cells, teeming with bacteria. The mucosa grossly shows all variations from a mild catarrhal hyperemia to the formation of an ulcerative pyogenic membrane. Microscopically the transitional epithelium is shown to be desquamated, thinned out and in places ulcerated.

The muscle fibres in the wall are stretched and in certain cases may be partially disintegrated and infiltrated by masses of round cells. These changes are greatest in that part of the ureter lying above the white line and the ureter near the bladder may show very slight variations from the normal.

Associated Pathology—There is frequently a concomitant cystitis which is usually catarrhal and rarely ulcerative. Frequently in patients who have had a prolonged febrile course there is marked emaciation. Pyemia and septicemia rarely result. Puerperal sepsis may develop following delivery. Milder forms of this condition are quite common, the infection remaining limited to the uterus and vagina.

Symptoms—The onset of the symptoms may be abrupt and severe, or gradual and is usually from the sixth month of pregnancy on, but rarely occurs as early as the third month. Chronic cases may give no symptoms and be discovered acci-

dentally on urine analysis. In the majority of cases there is a sudden onset with severe pain on one or both sides of the abdomen radiating into the back and kidney region and accompanied by the evidences of severe sepsis. Other cases have a gradual onset of pain and slight fever following a period of dysuria and frequency.

The principle symptoms are:

Pain, which may be unilateral or bilateral and which radiates into the lumbar region and is referred to the bladder and sometimes down the inner sides of the thighs. It is usually a dull ache, but may be sharp and stabbing, simulating a ureteral colic.

Tenderness is usually manifest over the affected kidney on deep palpation as well as over the course of the ureter palpated abdominally and vaginally. It may be difficult to elicit in stout individuals and is best brought out by palpating deeply over the suspected kidney while the patient takes a long breath.

Chills are frequently present and severe and may occur daily, preceding the afternoon rise of temperature. They may occur at irregular intervals and vary in severity from short chilly sensations to true shaking chills lasting from twenty to thirty minutes. They are probably due to absorption of toxins from the pus retained in the pelvis of the kidney.

Fever—In active cases the temperature may range as high as 103 or 105 and is usually of a septic type, higher in the evening. It may remain steadily elevated for weeks or there may be marked remissions alternating with exacerbations throughout the later months of pregnancy. The temperature may be normal and this is especially true of the chronic cases. It usually drops to normal promptly after the birth of the baby but in certain cases may first appear at this time.

The pulse is usually rapid in severe cases and frequently becomes very soft and compressible when the condition has been of long standing and a severe febrile reaction is present.

Emaciation may be very marked in severe forms of the disease, the patient frequently losing from twenty to thirty pounds of weight in a few weeks. It is noticeable that the recovery from this great loss is very rapid in most cases after the delivery.

Vomiting may occur but is a relatively uncommon symptom. It is usually associated with the other toxic manifestations.

Suppression of the urine may occur rarely but usually instead of this is seen an intermittent retention due to blocking of the ureter by a kinking

or an associated stone formation or by pressure from without.

Anemia is a frequent complicating condition and in some cases may be very severe, the patient showing extreme pallor, dyspnoea on exertion and occasionally complaining of dizziness and spots before the eyes.

The course of the infection varies in different cases. The patient rarely recovers from the pyelitis during the pregnancy and, due to the increased mechanical difficulties, tends to become worse as pregnancy advances. However, there may be remissions in the symptoms with intervals of weeks between the attacks of pain and febrile reaction.

Following labor there may be a flareup of the pyelitis with, or without, infection of the puerperal uterus, but the tendency is to rapid recovery following labor as far as the clinical symptoms are concerned. The pyuria and bacilluria, however, may persist for some time. Occasionally, as mentioned by Voorheese, patients are seen in whom the first symptoms appeared as late as the fourteenth day of the puerperium.

The condition may recur at a succeeding pregnancy or, as seen in case 1 of this series, the woman may carry through the next pregnancy without febrile reaction but with a persistence of the urinary findings. In our experience the attacks occurring in succeeding pregnancies are far less severe than the original attack. We have some evidence to show that an acquired immunity exists in these cases. Occasionally these cases may terminate fatally either from the pyelitis itself or from the cardiorenal or uterine involvement.

The prognosis for the mother is usually good as to life but must be guarded because of the possibility of renal and uterine complications. The recovery as far as the pyelitis is concerned is usually slow and may be much delayed even under active treatment. The patients usually regain their weight and strength rapidly except in the severe instances in which kidney destruction and other complications have undermined the general health too extensively.

For the baby the prognosis is not so good. This is dependent on the fact that there is a very definite tendency for labor to occur prematurely in these cases, frequently about the seventh month. This prematurity together with the toxemia derived from its infected mother who is frequently in no condition to supply good breast milk makes artificial feeding complete or supplementary, necessary in many cases. Whether or not they are actually infected these babies are

lacking in the usual vigor of response at birth which predisposes to atelectasis and the development of pneumonia. A certain number of these babies are still-born. The mortality may be placed at about 70 per cent.

Diagnosis—The direct diagnosis is usually easy when the possibility of the infection is considered, and yet the disease is being overlooked by the general practitioner in many instances because of the failure to appreciate the significance of these symptoms and to perform thorough routine urine analysis.

It is based on the above mentioned signs and symptoms, the onset in the latter months of pregnancy, the frequency of the symptoms being predominately right sided and the laboratory findings on urinalysis. Cystoscopic examination, when available, clinches the diagnosis. The cystoscopic findings are usually a reddening of the mucosa of the trigone of the bladder with or without a true cystitis. The ureteral orifices may be somewhat injected and in some cases appear more patulous. Pus can be seen coming down one or both ureters. The rate of ureteral peristalsis is markedly inhibited on the affected side. There may be no visible peristaltic wave. The catheter usually passes up the ureter without difficulty unless there is a concomitant stone. There may be residual urine in the pelvis of the kidney varying from 20 to 100 c.c. or more. Urinalysis reveals a turbid, flocculent urine which in some instance may be smoky or bloody. At times, however, the urine may be quite clear and this occurs in cases in which the ureter is temporarily blocked. Chemically both serum and nucleio albumin are found and the Meyer's test for blood is frequently positive. The specific gravity is usually about normal but may be decreased in cases complicated by considerable kidney destruction.

The kidney function is markedly reduced as measured by the phenolsulphonephthalein test. The average for ten cases being 20.5 per cent in two hours.

Microscopically the urine shows numerous pus cells and as a rule many sluggishly motile bacilli can be seen in hanging drop preparations. These bacteria culturally and tinctorially give the typical reactions for the colon bacillus, although other organisms such as streptococci, staphylococci or gonococci may be present either in pure culture or as a mixed infection. Occasionally the urine may be free from pus and bacteria for short intervals.

The blood findings are those of a severe secondary anemia, the hemoglobin may be as low as 40 per cent, the red cells reduced to 2,000,000 or

less and the leukocytes are somewhat increased usually not over 15,000 although exceptions do occur. The differential count shows a polymorphonuclear increase and the reds may show anisocytosis and ring forms. The agglutinins may be increased, especially in those cases infected by the colon bacillus and the agglutinin titre may reach as high as 1 to 340 by the typical Widal technique. Furthermore in certain sera, we have been able to demonstrate bacteriolysins in increased amount. The blood culture is positive in certain cases although frequently negative cultures result even when the culture is made immediately after a chill.

Differential Diagnosis—The condition must be differentiated from various other febrile reactions associated with chills and fever and pain in the lower abdomen occurring in pregnant, parturient and puerperal women.

Appendicitis—Usually shows the urine to be negative for large amount of pus although a few pus cells and red cells are sometimes found in this condition. There is usually an absence of tenderness in the kidney region and vaginally the ureter is found to be normal. Cystoscopically the findings are negative for pyelitis.

Typhoid Fever—Has frequently been mistaken for this condition. The differential points are the leukopenia, the rose spots, slow pulse, the history of an epidemic of typhoid and the negative cystoscopic findings. Typhoid bacilli may be seen in the urine but culturally give the typical typhoid reaction on endomedia. A positive Widal and blood culture would establish the diagnosis.

Malaria—Might be confused because of the chills and fever but the leukopenia, negative urinary findings and the demonstration of parasites in the blood usually make the diagnosis clear.

Puerperal Sepsis—Must be differentiated when the symptoms arise in the puerperium, and here the character of the lochia, the rate of involution of the uterus and cystoscopic examination establish the diagnosis. It must be kept in mind that this condition can and frequently does complicate the condition of pyelitis.

Cystitis—Without kidney involvement usually shows no renal or ureteral tenderness or pain. The general symptoms are usually less marked while the local reactions in the region of the bladder is much more pronounced.

Tuberculosis of the Kidney—As a rule gives fewer acute symptoms. Culture of the urine, together with examination of hanging drop specimens and guinea pig inoculations, would in addition to the characteristic bladder findings on

cystoscopic examination, reveal the etiological factor in most cases.

Treatment—The treatment of this condition is based on the type and virulence of the invading organism, the stage of pregnancy, and the reaction of the patient to therapeutic measures.

Prophylactically much can be done with patients who present a history or signs of cystitis or pyelitis before the onset of pregnancy. These patients should be carefully treated in an attempt to free the urine from pus and bacteria before pregnancy occurs. Langstein states that 90-per cent of cases in children can be cured if the treatment is carried out long enough. Jeffries, however, found only 35 per cent of sixty cases cured after prolonged treatment.

Rest, bland diet, forced fluids, hexamethylamine gr. vii t. i. d. in an acid urine followed in four days by alkalinizing the urine without urotropin for an equal period of time and then reverting to urotropin.

Occasionally bladder irrigation with silver preparations, such as 2 per cent silver nitrate or 10 per cent argyrol and sometimes catheterization of the ureters with systematic washing out of the kidney pelvis twice a week when the patient does not respond to the simpler methods. Hot sitz baths and hot douches are sometimes useful adjuncts to the more radical measures. Vaccines have been tried but striking results have not been observed.

The treatment of the pyelitis during pregnancy consists, in the majority of cases, of palliative measures until after the pregnancy is terminated. Postural treatment is important by which an attempt is made to relieve the pressure on the ureters by raising the pelvis or tilting so that the uterus is displaced upward or to one side. This is accomplished in several ways. The patient may be encouraged to lie on the side opposite to the infected kidney in unilateral infections. She may be placed in the knee-chest position from ten to fifteen minutes several times a day. A modified Trendelenburg position made by raising the foot of the bed until the angle is about thirty-five degrees may improve the drainage through the ureters.

Drugs are of some value and we use urotropin with a sodium acid phosphate alternating with alkalinization of the urine with sodium bicarbonate every four or five days. For pain we use codein or heroin or in some patients it is necessary to use small doses of morphine temporarily especially where abortion is threatened.

The anemia is treated by the use of a special diet rich in iron compounds such as red meats,

spinach and asparagus. In addition we use elixir ferri quininae et strychnini three times a day before meals and five grain Blands pills with arsenic after meals.

Local Treatment—Cystoscopically in the cases that do not yield to the above mentioned measures the ureters are catheterized and the pelvis of the kidney washed out with colargol 1 per cent solution or sterile distilled water. This is not advocated except in the severe type of the disease since occasionally an irritable uterus is stimulated to contract producing a premature labor. Franz leaves the ureteral catheter in position six to twelve hours at a time. Irrigations of the bladder with warm boric followed by instillation of one ounce of 10 per cent argyrol solution are employed where there is a marked cystitis.

Diet—The diet should be light and the fluids forced in the acute stages of this infection to render the urine as non-irritating as possible. Later when the acute symptoms have subsided red meats, spinach and other hemogenic articles of diet are allowed to combat the anemia.

Induction of labor is rarely indicated unless the symptoms become alarming and the measures enumerated above fail to correct the condition. The procedure may be dangerous because of the inevitable contamination of the vagina by the infected urine. If practiced a bag induction with weight attached to obtain quick uterine reaction and cervical dilatation is advisable.

Nephrotomy—Nephrotomy in patients with a perinephritic abscess may rarely have to be done and nephrectomy has been performed in a few cases. Cesarean section has been advocated by some men to avoid the danger of puerperal sepsis but is rarely if ever indicated for this reason alone although certain borderline cases complicated by contracted pelvis might be so handled.

Therapeutic abortion for this reason is seldom indicated even if the preceding infection has been rather marked. Subsequent pregnancies frequently run a much milder course.

Pyelitis developing in the puerperium is treated in an expectant manner at least until the end of the puerperium when more active treatment such as pelvic lavage may be instituted.

Discussion

Dr. A. C. Page, Des Moines—The paper has been well presented. To those who attend obstetrical cases the subject is of a great deal of importance and especially from the standpoint of recognition of the trouble. Although routine urinalyses are made, catheterized specimens of urine are not taken, consequently small amounts of pus are frequently included by contamination. In watching a considerable num-

ber of these cases over a period of years, several times where we thought we were examining the urine very carefully our first indication of a pyelitis was the development of a chill and temperature. Because of the lateness of the hour I will not attempt to give a very thorough discussion of the paper, but will merely mention a few points. As the essayist read this paper it occurred to me that pain has not been a prominent symptom as we have seen these cases. In those cases in which there have been one or more attacks of pyelitis in previous pregnancies the subsequent attacks have been more severe than those reported from the earlier types. Another point is in regard to the condition of the infant. We have been astonished to find that where labor has had to be prematurely induced at the period of viability, the babe is in unusually good condition considering its premature age. I do not think the author of the paper sufficiently emphasized the severity of and danger incident to this condition so far as the mother is concerned. Its danger to the mother is not only during the attack, but during subsequent labors. I think it is very apt to recur and frequently death results to the mother from this condition. As to treatment, I had hoped the author might give us some very definite results through the inauguration of local treatment by means of irrigations of the pelvis of the kidney—I thought possibly we had been backward in not finding this out, but he has not recommended this procedure very strongly. Our treatment has been very much along the same line—the use of urotropin and of sodium benzoate, keeping the bowels open. As to the induction of labor, while the indication for this is not frequent it does occasionally need to be done. I recall three cases in which it was necessary to induce labor at the period of viability, all of which were followed by cessation of the temperature and quick clearing up of the condition. In each one of these three cases, however, the mother was in extreme condition at the time labor was induced, so much so that we despaired of her recovery for a period of a few days, just from the general weakness that had resulted from the long continued illness. I believe that labor will have to be induced rather frequently for this condition. In those cases in which the patient has suffered from severe pyelitis in former pregnancies the early development of pyelitis in a subsequent pregnancy is, in my opinion, an indication that we should resort to the induction of labor.

Dr. Falls—In the class of pyelitis of pregnancy that we have had pain has not usually been an outstanding feature. However, pain may be rather severe in these cases and frequently we have had to have recourse to codein and morphin until we succeeded in establishing drainage, when the pain usually ceases. The babies in our series, as in a great many series cited in the literature, have been in jeopardy partly because of their poor condition at birth and frequently simply because of prematurity. Also because the mother is infected and may be in

no condition to give an adequate milk supply. Frequently the condition arises and the pregnancy terminates about the end of the sixth month or at the beginning of the seventh, rendering the condition of the babe precarious so far as the expectancy of life during the first year is concerned. In many of these cases of pyelitis the child is stillborn. We have been rather surprised to note that patients who have had pyelitis in preceding pregnancies are in as good condition as they are in subsequent pregnancies. The fact that in the first case cited the patient could go through a second pregnancy within one year and show absolutely no rise of temperature during the course of pregnancy or after labor was astonishing. Irrigations of the pelvis should not be emphasized. We feel that irrigations are to be advised only when the other simpler methods fail, then irrigation should be carried out. Wash out the pelvis, and if that is successful well and good; if in a few days or a week you do not obtain the results desired, then termination of the pregnancy is indicated, if the condition of the patient warrants. So far as the induction of labor is concerned, the point I wish to make is that induction of labor is unnecessary in a large number of cases. If it is necessary, then whatever method is used you have the danger of introducing infection into the uterus, because it is impossible to conceive of the vagina of a woman suffering from pyelitis of pregnancy being clean. It must be infected with the organisms causing the pyelitis. These women therefore must have some special protective mechanism or they would all develop puerperal sepsis.

TUBERCULOUS PERITONITIS AND ITS TREATMENT*

L. C. KERN, M.D., F.A.C.S., Waverly

With increasing opportunity for observation, I have come to the conclusion that tuberculous peritonitis is much more common than it is usually believed to be. The protean character of its symptoms necessarily make it so. When one reviews his experience and finds tuberculous peritonitis where acute appendicitis had been diagnosed, or acute intestinal obstruction, or typhoid fever, or a pelvic tumor, one must take a deeper interest in this remarkable condition that makes diagnosis so difficult and, I may say, sometimes impossible. As W. J. Mayo says "Tuberculous peritonitis is not a primary disease, but, like septic peritonitis, is symptomatic, having its origin in some local focus of infection. The most common sites of local foci are the Fallopian tubes in women, some part of the intestinal tract in both

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men and women, the lymphatic glands and channels, especially in children."

It is not necessary for me to go into the minute pathology of this disease, and I intentionally omit all such references that can better be obtained in text-books, nor will I attempt to prove any theory as to how the infection travels from the primary focus and involves the peritoneum. Chronic tuberculous peritonitis was long recognized as a pathological condition, but not until 1862, when Sir Spencer Wells accidentally found the condition in a twenty-two year old girl on whom he was operating for a supposed ovarian cyst, did the world know of the surgical possibilities. He only removed the fluid, but the patient recovered. No further reports occur until about 1884, when Koenig reported four cured cases. Since that time innumerable cases have been operated and cured. Tuberculous peritonitis is even now considered a borderline type of ailment, having an interest for both internist and surgeon. Many, today, advocate the medicinal treatment until certain results are obtained, or until failure is acknowledged, and then surgery is to be tried.

According to the classifications of Moynihan, three forms are recognized: "First—The ascitic or miliary form. Second—The fibrous form. Third—The suppurative (ulcerative) form."

The cases coming into my hands have been largely of the ascitic type. You are all familiar with the appearance of the peritoneum, its rough, congested, "nutmeg" appearance, and fluid present in the peritoneal cavity—the amount in my cases varied from two quarts to four gallons. There are few adhesions in this form, but a general distribution of the tubercular process. The fibrous type is not so common. In this there is no fluid but a generalized agglutination of the peritoneal surfaces, in some cases so extensive that there is really no cavity remaining—it being obliterated by the extensive adhesions. In some cases the omentum becomes so rolled up as to make one believe he is dealing with a tumor or an ovarian cyst. The third or suppurative type exists where the process has gone on to the point of caseation of the tubercles; a mixed infection occurs and the process is more or less localized. Then, you often encounter the mixed variety, in which you see the ascitic form changing to one of the other types and there you feel the lessened opportunity for a cure. If you remember that this process is not primary but may be a part of a generalized tuberculosis, possibly of the lungs, and comes in as a late part, perhaps, of the syndrome of symptoms, or that it may occur in one of supposed good health, appearing suddenly and

with no pain, you will be on the lookout for this disease.

It will be noticed that I have spoken in my classification of three types of tuberculous peritonitis. The title of the paper suggests that later on something will be said in regard to treatment. The surgical treatment that will be spoken of pertains particularly to the first type of this disease, the ascitic or miliary form. Where a diagnosis can positively be made of the fibrous type, many times surgery will not be the best form of treatment. The third or suppurative type often gets even poorer results from surgery, except in cases of intestinal obstruction or where some other pathology complicates the tuberculous picture in a way that makes surgery imperative.

In one case which I saw, the young man was treated for fifty-two days for typhoid fever, because of a positive Widal, and only after the tuberculosis had advanced to the point of involving the lungs was the diagnosis correctly made. It should always be remembered that tuberculous pleurisy or pericarditis or tuberculosis of the lungs can co-exist with tuberculous peritonitis.

The symptoms of tuberculous peritonitis are so varied that one cannot make a diagnosis upon them alone. There may be temperature—normal or up to 103, or higher, with pain, or, more often, no pain; loss of weight, anorexia, general indigestion, loss of sleep and asthenia, or, any of these may be absent. One of my cases was a school boy of about sixteen years. He came into the office one morning on his way to school and said "Doctor, I came up to ask you why my trouser band is so tight and I feel so full." Examination disclosed the ascitic type of tuberculous peritonitis. He denied feeling badly in any way and had been doing his school work up to that morning.

In another patient, number fifteen in the record, a young woman of twenty, the diagnosis of hysteria was made by several. She was a nurse in training and through the careful history taking of one of my colleagues on the staff a correct diagnosis was made of her condition. She was operated upon and an extensive tuberculous peritonitis with considerable fluid was found, and the appendix was removed, along with the focal infection in one of the ovaries. Her recovery was remarkable, she is now married and in excellent health. In speaking of such cases one is reminded of the article in the March issue of the Medical Clinics of North America, an article entitled "Those 'Painful' Women," from the pen of that master of surgery at Ann Arbor, Hugh Cabot. It should be said at this point that the greatest aids

in the diagnosis of tuberculous peritonitis are, first, careful history taking. I cannot emphasize this too strongly. Second, the thorough physical examination, which must be made of the entire body, of the chest as well as the abdomen. Third, the laboratory findings and, fourth, the x-ray films and other x-ray examinations. Nor does the laboratory always help you out; as a rule the red cells are diminished and a certain amount of anaemia exists; you may have a leukocytosis or not; may have a fever or a normal temperature. The ascitic type is apt to be more or less symptomless as to pain and distress. The other types have more pain and abdominal distress, which may simulate other acute lesions, as before stated. As to age, it has been reported in cases from three weeks to seventy-five years, or even older. The great majority of cases occur between the ages of puberty and forty years, although many cases occur in children.

It is my desire to call your attention to this rather frequent disease, report some cases coming in my own practice, and discuss what to me seems the best method of caring for these unfortunate creatures. The majority of cases in my experience have been women. I believe that it was the late Dr. J. B. Murphy who called the attention of the profession to the point that, in tuberculosis of the tube (the most frequent focal point in women), the fimbriated extremity of the tube did not become agglutinated and closed as it does in gonorrheal salpingitis, but remains open and continues to throw out its exudate and toxins into the peritoneal cavity, which probably accounts for the form so often seen in women, and also explains the recovery when the tubes are removed. In 1904 Dr. W. J. Mayo first advocated their removal and pointed out that a much higher percentage of cures would thereby take place.

Later, in 1918, he says: "Fourteen years of experience since the publication of the observations has confirmed them in every respect, and it may be said that in tuberculous peritonitis which is the result of tubal tuberculosis, removal of the Fallopian tubes may be expected to cure, unless other tubercular lesions co-exist." He does not advocate the removal of ovaries or of the uterus. It must be remembered, however, that the primary focus of infection may be in the appendix, in the region of the gall-bladder, or in the omentum, and many times the removal of the focus, even if found, is impossible. It seems that there are three regions in which the primary focus is most apt to be found: namely, in the pelvis in the female, in the region of the ileocecal valve and the appendix, and in the upper abdomen, often contiguous to the

gall-bladder and the liver. As in the case of the primary focus being in the Fallopian tubes, if found in the appendix or its region the appendix certainly should be removed, if possible, and it has seemed, according to the reports from numerous observers, that removal of the gall-bladder frequently causes a complete cure of tuberculous peritonitis. In one of my cases, operated on some twelve years ago, the primary focus seemed to be in the region of the gall-bladder. This case was one of a very large woman, weighing 250 pounds, from whom I removed over four gallons of fluid, by measure, and finding an immensely enlarged gall-bladder containing, by actual count, over four hundred calculi, the stones were removed and the gall-bladder drained. At this time the woman had a fair sized fibroid but had no particular involvement of the Fallopian tubes, any more than the general peritoneal involvement, which was very extensive. She made an uneventful recovery at that time but later returned on account of pelvic distress and a hysterectomy was decided upon. This gave me an opportunity to again see the peritoneum. It had returned to its normal condition in every part. The tubercles were all gone and the peritoneum had resumed its normal condition. The gall-bladder was free from stones and the tuberculous inflammation in the upper abdomen had entirely disappeared. This woman has remained entirely well and free from any further trouble.

As said before, tuberculous peritonitis was originally assumed to be a condition to be treated only by the internist. The matter is undoubtedly one of a border-line position, and, like gastric ulcer or certain types of toxic goitre, may best be treated by the internist and the surgeon working together. Ochsner states that tuberculous peritonitis is relieved by medical treatment in perhaps 50 per cent of the cases. But one feature comes up in the consideration of the treatment: If we admit that 50 per cent of the cases recover with no treatment or with medical treatment, the question arises as to whether these people continue to remain well or do they have their tuberculosis going on to the point of an extension to the lungs or pleura or even to the meninges or another part of the body. Are they in as good a position as they might be with the primary focus removed?

From an analysis of twenty-six cases occurring in the work of the men at St. Joseph's Mercy Hospital at Waverly, it would appear that the best interests of the patient can be served by as early an operation as possible, with a removal of the fluid and, when possible, of the point of focal infection. In going over the histories of the cases

occurring in our institution, I could not help but be very forcibly impressed with the benefit of our later method of keeping case histories and having complete laboratory examinations made in all operative cases. Therefore, it is impossible to give as good a summary and draw as clear conclusions from these twenty-six cases as one would like to do, from the lack of perfect history taking and record keeping in the early days of our institution. No greater argument could be made for the recent effort for the standardization of hospitals than the going over of old records and the comparing of them with the more recent ones in the preparation of any paper. Of these twenty-six cases twenty-four were ascitic cases and all were subjected to laparotomy excepting two, one of which was a trained nurse who came into the institution in the last days of an acute miliary tuberculosis and a paracentesis was done to relieve her distress. From the history of this case, made by myself in my office six years previous, I am forced to believe that her primary focus was possibly in the pelvis and that the involvement of the lungs was secondary. The tuberculous peritonitis was a terminal condition and was relieved only by paracentesis. The tapping was done several times during the last days of her illness. With these possible exceptions I believe every other case of the twenty-six were subjected to laparotomy.

Of these twenty-six cases, twenty-four were females and two were males. In age they ranged from eight years to forty-five years. The majority had no blood examination. The temperatures, at the time of admission, ranged from 97 to 103. The amount of fluid is not given in all cases, but as far as the records show it ranged from a slight increase up to four gallons. Type of operation: The appendix was removed in eleven cases. The Fallopian tubes were removed in seven cases. Other procedure, such as the drainage of the gallbladder, was done in two cases; in the earlier cases, when ovarian resection was more commonly practiced than now, some portion of the ovary was removed in seven cases. No resection of the ovary has been recorded in the operative procedure during the past five years, although, in one case, a large ovarian cyst was found—about six inches in diameter, and this was removed. The tubes were not removed in this case and her primary recovery was good. In about eight weeks she began to have distress from a condition found in the pelvis at the time of operation and which was diagnosed at that time as tuberculosis. I refused to operate again and, at the instance of her husband, Dr. Harry M. Richter of Chicago came

out and did a resection of the tube and cul de sac, and while the operation was beautifully done from a surgical standpoint, the patient lived only forty-eight hours. This case is one where the ascitic type in a short period of time was changed into the second and eventually into the third, as we found caseation of the glands involved in the pelvis. The extensive process, at the time of the primary operation, made me feel that resection was impossible and the later operation, done by this master of surgery, demonstrated this fact.

The results must be viewed in the light of what we understand as cured, improved, or fatal termination. Of these twenty-six cases four died in the hospital. Two deaths were a terminal condition and were not operated except to have the fluid withdrawn. One died following an operation for supposed intestinal obstruction and lived only about three days. Of the remainder, as far as checked up, four are now dead. All died, as far as known, from an extension of the tuberculosis elsewhere in the body. Of the other eighteen cases, at the time of dismissal, all were marked on the charts as "cured." I wish to say now that I disapprove of that term but I am quoting the records as formerly kept in our institution. I believe they should have been discharged as "improved." This again necessitates some check up system in the work. Up to this time our hospital has not inaugurated such a system, so as far as known the other eighteen are living and well at this time.

In consideration of this subject it would seem that, as Moynihan says "It is certainly desirable that operation should be practiced in the early stage of the disease or, at least, should not be postponed until the patient has become so wasted and exhausted that the shock of the operation is likely to be serious." That I believe to be an exact statement of the case; as far as my own practice has been concerned, where I felt certain of the diagnosis of tuberculous peritonitis of the ascitic type the patient was immediately subjected to laparotomy in all cases except where, from the co-existent process of tuberculosis elsewhere, or from other complicating lesions, operation was deemed inadvisable at the time. The late Dr. J. B. Murphy gave us as good a rule for surgical indications as I know of. He says "First, to remove or shut off the source of supply of the tuberculous material, that is, to remove the primary focus of disease; second, to remove the products of the infected process from the peritoneum; third, to increase the tissue proliferation for the incapsulation of the foci already present; fourth, to avoid mixed infection." Someone has sug-

gested the interesting fact that the system suffering from tuberculous peritonitis, as well as other infections, has a certain amount of force known as vitality or vital units. A disease condition can be classified as negative vital units. Then the point comes up in the discussion of some of these cases of tuberculous peritonitis, where the patient seems in rather serious condition, why operate? Why do anything at all? It has occurred to me that if we have a certain number of vital units in a given system and a diseased condition can be counted as a certain number of negative units, that by removal of the negative units the balance is put on the side of the plus units, therefore the dictum given out by Murphy will be proven to be logical. These, in a few words, would seem to be the great guide for the surgical treatment for tuberculous peritonitis. I think it is generally recognized that the simplest procedure possible is the best, compatible always with the idea that the primary focal point must be removed if possible. In the removal of the Fallopian tubes it seems best not to remove the ovaries or the uterus unless they are specially involved. My earliest recognized case of tuberculous peritonitis occurred something over twenty-five years ago. I wish to say that I can think back over the earlier years of my practice and I feel that I missed the diagnosis in many of these cases. In those days they were considered to be cases for medical treatment. After doing all for this woman that I knew how to do, giving her local treatments and watching her with her temperature, chills and sweats, loss of weight, on-coming anemia, I decided to take her to one of the larger hospitals of the country, and there I saw my first operative procedure for tuberculous peritonitis. I well remember the condition of the pelvis and the infection found in the tubes, and how, after the operation, I thought, from my sparse knowledge of surgery at that time, that this woman's span of life was about at its end. I wish to say that, at the present time, she is still living, she enjoys good health, and from her rosy cheeks and good color one would never suspect that she had had tuberculous peritonitis, or even any surgical operation. One point that is not disputed, I believe, in the surgical treatment of these cases, is the matter of drainage. All experiences of my own and the experience of all writers on this subject, emphasizes the fact that in this country drainage is to be avoided if possible. Care should be taken to avoid infection of the surgical wound and it seems the matter of good surgery to apply iodine to the wound after the closure of the peritoneum. In a certain number of instances, and in one of

my recent cases, a small fistulous opening occurred following the evacuation of a small amount of serous fluid. These small sinuses are best handled by the injection of Beck's bismuth paste with a small amount of iodoform incorporated.

The prognosis of tuberculous peritonitis depends on a number of factors: The age of the patient, the type of peritonitis and the treatment accorded the case. In advocating surgical treatment of suitable cases of peritonitis I would not, for a moment, lose sight of the fact that these cases in every other way should be handled exactly as every other case of tuberculosis is handled, in regard to rest, light, fresh air, diet, and, in fact, should be as carefully nursed and cared for as any other case of tuberculosis. The treatment of tuberculosis, not only of the peritoneum but of the lungs and all tissues of the body, along with the post-mortem findings, have proven to all of us the great curability of tuberculosis and I think that all doing abdominal surgery have come across conditions that were undoubtedly recognized as tubercular lesions and that, unexpectedly, many times, tuberculosis was encountered. Then, too, the post-mortem tables show us that tuberculous peritonitis must have existed in many individuals in whom it was never recognized. The failure to get a complete recovery, sometimes, in tuberculous peritonitis, possibly has been due to the fact that the surgeon sometimes feels that his work is done when he dismisses the patient from the hospital. It appears to me that surgeons are lax, sometimes, in their post-operative treatment and after-care of patients, not only of this disease but of others that might be mentioned, in the fact that the patient is not given definite instructions and directions as to his mode of living and he is often turned out without any idea of how to care properly for himself in a post-operative way. It seems to me that it is a good thing, sometimes, for all of us to have a little personal experience from the operative side of this game. Well do I remember in my own experience, nine years ago, the long tedious months of my convalescence, involving a trip to Colorado, and had I not known something of how to care for myself I should have been like a ship upon the ocean without a compass. It is wise to instruct the patient following laparotomy for tuberculous peritonitis that he or she is in exactly the same position as any person with a disease that they know as consumption. They must have rest, light, fresh air and diet and all of the other proper surroundings, and that this must be strictly and definitely and exactly carried out for the period of at least one year and thereafter that they must always remember that they,

possibly, may never be able to do the exacting things of life that other people do who have never had this dreadful disease. I believe with all my heart in psychology and it is certain that the mind has a great influence over the body and no class of people are more susceptible to impressions than those people suffering from the toxins of tuberculosis. It is the duty of the surgeon as much as it is of the internist to get the confidence of the patient so that he has it within his power to direct and definitely show these patients the only royal road to good health, as I have previously indicated. We can honestly state to these people that we consider tuberculous peritonitis in a favorable light as far as cure is concerned, if that is the only seat of tuberculosis and especially if the case has been taken sufficiently early. Tuberculosis of the peritoneum in its early stages is practically a purely tuberculous lesion; later on it may become a mixed infection and it is in such that we find the difficulty in cure.

In conclusion I would say, first, to get a thorough history of the patient, covering the entire life; second, to make a thorough physical examination of the entire body and especially of the lungs, kidneys and genital organs, as well as of the abdomen; third, if the type is ascitic, operate as soon as possible according to the rules laid down in the body of the paper; fourth, keep in touch with the patient afterwards and definitely instruct him as to the manner of life and the value of rest, light and proper diet, extending over at least one year of time after leaving the hospital.

Discussion

Dr. Paul A. White, Davenport—Dr. Kern has very well covered the essential features of this disease. We have here an entity where the laboratory is of very little aid, therefore in most instances we come down to diagnostic acumen. The essayist spoke of the various methods of arriving at a diagnosis and usually those methods will attain the desired end. However, in the late cases and in the very early acute cases the difficulties are almost insurmountable. An acute case with a temperature of 104 and a high leucocyte count as sometimes occurs would certainly lead one to the diagnosis of appendicitis. Unfortunately, experience has shown that those very early cases if operated are more likely to go on and develop generalized miliary tuberculosis, and, if possible, operation should be delayed until the patient has developed something of an immunity to the disease. For that reason this class of cases is certainly a difficult one, and I am sure that most of us will submit them to laparotomy rather than delay them, therefore incur that danger of encouraging the development of a generalized miliary tuberculosis. From the literature it is, as far as I can determine, a

mooted question as to whether tuberculous peritonitis is ever primary or always secondary. It is probably nearly always primary in a mucous membrane somewhere and secondarily generalized throughout the peritoneum. The essayist has referred to the generally recognized measures in the treatment of this condition previous to 1900, when members of the profession first experienced their amazement at the recovery of patients when the abdomen was merely opened, and up to the present time that procedure has attained considerable confidence. Cases taken in the early stage and before the period of suppuration takes place usually recover with the opening of the abdomen and removal of the focus if it can be found. It is very fortunate if the focus is demonstrated to be in a patent Fallopian tube or in the gall-bladder region, but when it is in some region where it cannot be located or it is not removable, we must depend on the opening of the abdomen as a curative measure. Most of us get these cases late. We have time to speculate as to the condition present. On opening the abdomen a mass of adhesions is found, we may or may not find and remove a focus, and in a great many cases we then have on our hands a patient greatly reduced in weight and resistance, oftentimes with sinuses. Dr. Kern has spoken of treating these sinuses with Beck's paste. My experience is that this procedure is tedious and long drawn out and we are too apt to fall into a state of negligence, we might say, with respect to the case and carry out some procedure of that sort indefinitely without results. I think we should keep in mind other measures that will raise the patient out of the gutter of extreme relaxation and lack of resistance. Sun baths, as presented by Armand de Lic of Paris, have been advocated and certainly are worthy of a trial. Any therapeutic measure such as this that is definitely and energetically carried out seems to produce results. The sun baths should be carried out definitely over a stated period of time each day lengthened until the full benefit is obtained. In any condition where we have an active proliferative process x-ray should be used. Certainly it has possibilities of suppressing the developing lesions and giving the patient a better chance to overcome the disease by means of his own resistance. Another measure that should be kept in mind and which was impressed on us in a recent trip through the east, especially at Crile's Clinic and at Yale University, is the use of transfusions. In Crile's Clinic they use transfusions at the slightest provocation in septic conditions, and this measure certainly is an aid where the patient is in that balance of either going backward or having an opportunity to go forward. It gives them a boost and their natural powers of recuperation have a chance to assert themselves. In research work carried on at Stockholm it has been shown that in peritonitis there is a capillary stasis in the viscera and mesentery, and they turn to transfusion as a method of overcoming this vascular condition and relieving

the peritonitis. Another thing of much value in these cases is Arsphenamine. Stokes has shown that in cutaneous tuberculids Arsphenamine acts almost specifically, in fact so specifically that it confuses the diagnosis with syphilis when used as a therapeutic measure in clearing up the condition. He believes that Arsphenamine is a fortifier of resistance, that it raises the opsonic index in tuberculosis, and certainly in certain of these cases it acts magically. In certain febrile cases Arsphenamine is a detriment instead of an aid and that must be kept in mind. Dr. Kern also has emphasized the necessity of following up these cases and regulating the diet. We should also mention the clearing up of secondary foci of infection such as the tonsils. I do not think there is any doubt that the tonsils are an avenue of ingress of tuberculous organisms. The English commission showed that 50 per cent of tuberculous cases were bovine in type, the German commission found that 60 per cent were bovine in type, while the New York commission demonstrated that 65 per cent were bovine in type, which of course postulates the possibility and necessity of preventing these conditions by eliminating tuberculous cattle and also by pasteurizing the milk from non-tested cows.

SOME REMARKS ON THE STATUS OF PRESENT DAY OBSTETRICS*

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Reviewing the history of medicine from the time of the earliest authentic records to the present, the student is impressed with a very few outstanding facts. He will note that up to the time of the aseptic era, while some few substantial advances had been made, surgery was still a hazardous proposition so far as the patient was concerned.

Since the advent of clean surgery truly "wonders have never ceased." The story of the advance of surgical science from that time reads like a fairy tale.

But just here he is confronted with a peculiar anomaly in the advance of surgical science, and that is the fact that the oldest branch of the surgical art, obstetrics, has failed to keep step with the pace set by the advance of surgery in other lines. It is true that a notable step in advance has been made since the discovery of the cause of child-bed fever that put an end to the horrible epidemics which meant death to a large per cent of women condemned to a term in a lying hospital, but sporadic cases are all too common even now, in spite of the general knowledge of surgical

asepsis. Along other lines a similar amount of progress cannot be claimed, such as the prevention and treatment of the toxemias of pregnancy, the clear cut indication for surgical interference, Cesarean section, etc. Why is it that this branch of surgery, which has more to do with the progress and welfare of the human race than any other phase of the healing art should have been left so far in the rear of progress? Mortality and morbidity statistics as compared to those of surgery, in the light of recent advances, are sufficient to create a desire to investigate farther into this lack of progress.

Statistics show that in general surgery the U. S. ranks second to none among nations, while in obstetrics, as late as 1916 we ranked eleventh. Since then considerable improvement in our standing has been made but we still are compelled to admit the superiority of six foreign nations.

Lack of uniform registration of vital statistics in this country, make it very difficult to reach definite conclusions, but recent reports from the Bureau of Child Welfare for the U. S. indicate that the national death rate (the death rate of mothers from all puerperal causes per 1000 live births) is increasing for the registration area. This does not hold good in Iowa, for in this state we are considerably lower than in the area as a whole, probably because we are not confronted by the problem of poverty to the same extent as exists in the more urban states. Nevertheless, we should expect the disparity to be greater than it is. For example, the maternal death rate per 1000 for England and Wales has been 3.4, for Japan 3.5, while that of the registration area of the U. S. is between 6 and 7 and for Iowa about 5. It is not these figures so much as the fact that so little progress is being made, that should interest us.

Emmons of Boston says, "child bearing may be defined as a normal function dangerous to public health." Infant mortality statistics give prenatal and obstetric care the responsibility for 40 per cent of deaths in the first month of life. Add to this the still birth rate and reduced vitality, also the maternal morbidity, and we must realize more clearly, the responsibility resting upon the man who as a part of his practice does obstetrics.

No doubt most of us are more or less familiar with figures relating to maternal mortality, but their importance makes them worth repeating. It is estimated that at least 15,000 women in the registration area alone die annually from conditions caused by childbirth, about half of them die from child bed fever, an admittedly preventable disease, and the other half from disease now

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known to a great extent to be preventable or curable.

More deaths of women are caused annually by childbirth than by any other disease except tuberculosis. During the past ten years a marked improvement has been made in the control of certain other preventable diseases, such as typhoid, diphtheria and tuberculosis. During that time the typhoid rate has been more than cut in half, the same is true of diphtheria, and the rate of tuberculosis has been markedly reduced. During this same period there has been a greater decrease in deaths from childbirth in England, Wales, Ireland, Japan, New Zealand and Switzerland, than we can show, although some of these countries have shown an unhappy reaction since the close of the war. These facts point to the need of a higher standard of care for women during pregnancy and at the time of childbirth.

Is the death rate from child birth falling? Dr. Williams of Johns Hopkins believes that there is no great improvement. Dr. Webster of Rush and Dr. Powell of Chicago, believe the same. Dr. DeLee comments on the great prevalence of puerperal septicemia in spite of our present knowledge of asepsis. Many other observers of statistics make the same comment. Unfortunately our statistics are incomplete, but they are sufficient to show an alarming situation, which with the annually increasing data, does not become more encouraging.

The low standards existing in this country are given as resulting chiefly from two outstanding causes: (1) General ignorance of the dangers connected with child birth and the need of proper prevention. (2) Difficulty in the provision of adequate care for the more difficult problems characteristic of this country.

It would not be difficult for those whom we look to as authorities to say what should be done to remedy the situation confronting us, but with a knowledge of the attitude of our freedom loving American citizens, and the horror most American physicians have of any form of "compulsory medicine" or any dictation from higher authority, it is not so easy to say what can be done. It is quite obvious that to make further progress a greater stimulus to education must be given—not only of the public in the matter of prenatal and maternal care, but better obstetrical training in our medical schools.

A large part of the public and many physicians regard childbirth as a normal function and as Emmons has said, will take risks that an intelligent farmer will not take with his live stock. A united effort of the physicians, in a constructive

educational campaign unquestionably would do a great deal to improve the situation.

It is the opinion of nearly all obstetrical leaders that a great deal of the blame for the present condition lies at the doors of the medical colleges. A study of the schedules of classes of most of the leading medical schools shows that approximately three times as much time is given to the study of general surgery as to the course in obstetrics, this in spite of the fact that the great majority of graduates are going out to do general practice, of which obstetrics is a large part, while a comparatively small number will do major surgery, and that only after taking an interne service, and obtaining special work along this line. Thus we find a well standardized surgical technic developed, while each man does his obstetrics according to the knowledge he gains in his own experience. Imagine a man without special training attempting a difficult surgical operation, yet he is often compelled to meet an obstetric problem which a master of the art would regard with considerable trepidation.

To remedy this weakness of obstetrical teaching may not be the function of the general practitioner, but it does seem that a great opportunity presents itself for our earnest consideration, and that is the encouragement of education along the lines of hygiene and care of the expectant mother. The difficulties under which we labor in this respect some times seems almost too great, but it is interesting and encouraging to note what has been accomplished in other communities. A concrete example of this in the French community of Villiers leDuc, where the mayor becoming interested in the problem of maternal mortality, took a medical course, then caused to have inaugurated a system of inspection and prenatal care among the pregnant women of the community, with the result that for a period of several years, not one woman died of disease incident to child birth. This plan of course called for compulsory features which would not be considered in this country, but nevertheless, results were obtained which have never been duplicated in any community of like size in this country.

In some of the larger cities of this country maternity clinics have been established, where prenatal advice and instruction are given, and which will have a beneficial effect among the needy in the larger centers of population, but the number of such is still too small to reach an appreciable proportion of the population. There is no good reason why the comparatively well-to-do in such rural communities as we in Iowa are acquainted with should not receive the same attention, not as

charity, but by being educated so that they will take advantage of the care that every practicing physician should be able to give them. We physicians in the smaller towns are all too often called to attend a labor case where no physician had been previously consulted.

In some of the rural counties in Iowa, the burden of the obstetrician has been lightened by making it possible to have access to a hospital for his confinement cases, especially the complicated ones, and the idea of hospital care is beginning to appeal more and more to expectant mothers. It is a noticeable fact that the younger women are showing a more intelligent interest in things pertaining to pregnancy and the puerperium, and if the physician of a community will daily preach the gospel of hospital care, it will not be long until every county in the state will have its hospital, where the physician will not be handicapped by the limitations of the home, in the handling of difficult deliveries.

While the old mid-wife is a negligible quantity in most Iowa communities, we are still cursed by the presence of the old lady in the guise of the so-called practical nurse. Was ever a more inappropriate term applied to an individual making claim to ability in any line? Most of us can probably think of half a dozen good old ladies who, having become incapacitated through age or rheumatism for housework decide to take up obstetrical nursing. No surgeon would think of employing one of these women to take care of a clean laparotomy case, yet ask the trained nurse which is the more difficult case to care for, which requires the more intelligent nursing skill? And ask yourself in which case is the danger of complication greater, or the effect on after life more problematical.

Another thing which has retarded the more enthusiastic interest on the part of the general physician in the past has been the ridiculous fee schedule. One author asserts that physicians are made careless by the fact that they can get a better fee for the repair of damage resulting from bad care in child birth than by giving intelligent care at the time. If the fee for obstetrical work was in proportion to the importance of the case, the patient would receive more intelligent attention and the physician would be more respected for his work.

The task of educating the public is always a grave one, requiring much time and patience. In Iowa, it seems as if education in the care and breeding of farm animals has received more thought, and much more progress has been made than in the care of the human animal, and federal

aid has not been spurned in this work. While this is not propaganda for the Shepard-Towner bill, it does seem that a properly directed educational effort along this line would be a substantial aid in placing the care of pregnant women on a more scientific basis, and naturally, cut down the mortality and morbidity statistics of this state.

CONCLUSION

Obstetrics has not kept pace with the advance of other branches of surgery.

Because it is not as well taught in the medical schools.

The public is not educated sufficiently to realize the necessity and the value of intelligent care during pregnancy and the puerperium.

The average physician does not give the same painstaking care to his obstetrical cases that he does to his surgical patients, because the work is trying, the remuneration small, and because he himself does not have as keen a realization of the importance of his task as he should.

The building of more hospitals in rural communities, and the encouragement of the public to take advantage of them, will help materially to improve our mortality and morbidity statistics.

Obstetrics is deserving of being on the same high plane as other branches of the healing art, and calls for the enthusiastic cooperation of laity, medical profession and medical schools in placing it there.

THE VALUE OF IODIN IN EXOPHTHALMIC GOITER*

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AND

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Iodin has been the unknown active principle in many of the therapeutic concoctions which have been used for centuries in the treatment of goiter. The first authentic record is found in the *Practica* written about 1170 by Roger of the University of Salerno. Roger described both goiter and scrofula and recommended for their treatment the ashes of sponge and seaweed. That iodine was the active substance in these remedies was not known until 1820, when Coindet, a Swiss physician, published investigations which showed that iodine benefited many patients with goiter, especially by reducing the size of the thyroid gland. In 1850 Chatin, a French physician, demonstrated

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that small doses of iodine would prevent the development of endemic goiter and cretinism. Following the reports of Coindet, Chatin and others, the use of iodine, usually in the form of potassium iodide, in the treatment of goiter became very common, and as a result it was found that many patients, instead of being benefited, were made much worse. Kocher, especially, has emphasized the dangers of an indiscriminate administration of iodine to patients with goiter. Our experience confirms in a certain definite, but restricted sense, the opinion of Kocher and others, as we also have repeatedly seen patients with adenomatous goiter without hyperthyroidism rendered "hyperthyroid" by the administration of iodine.

The question of the efficiency and safety of the prophylactic use of iodine in regions in which goiter is endemic was recently reopened by Marine. By an extensive study on the school children of Akron, Ohio, Marine and his associates demonstrated the value of small doses of iodine administered under controlled conditions to school children in reducing the incidence of endemic goiter.

Isolated observations and case reports indicating the benefit of iodine in exophthalmic goiter are also encountered in the literature. The weight of opinion thus far, however, has been strongly against the use of iodine in this disease. The first extensive study of the effect of iodine in exophthalmic goiter was initiated by Plummer in March, 1922, and a discussion of the theories leading up to its trial, with a preliminary report as to its value, was made by him at the meeting of the Association of American Physicians June, 1923. The present paper will not contain a theoretic discussion of the fundamental principles on which the trial was based, but will be limited to a statement of the results obtained, so far as they can be illustrated by charts showing the course of the basal metabolic rate, pulse rate, and the weight of patients before and after the administration of Lugol's solution.

Liquor iodi compositus, or Lugol's solution was used as the iodine preparation because it is an aqueous solution of iodine (5 per cent) and potassium iodide (10 per cent), and therefore provides a large amount of iodine loosely combined with potassium. It has been found that ten drops of Lugol's solution, well diluted with water and followed by half a glass of water, is, on the average, the optimal dose. Certain patients have been observed who did not react on five drops, but did react on ten drops. Some of the most rapid reactions have been observed when ten drops were given three times a day. At the present time the routine dose in the average moderately severe case

is ten drops daily; if there is a critical gastrointestinal or mental crisis, this amount is given three or four times a day for a few days, and then reduced to once a day. If the drug is not tolerated by mouth, it is given in similar doses by rectum; rectal administration, however, has only been found necessary for a few days for patients who had severe gastrointestinal crisis, and constant nausea and vomiting. As soon as the vomiting was controlled, the solution was given by mouth.

Charts 1 to 10 illustrate the effect on the basal metabolic rate, the pulse rate, and the weight of the administration of Lugol's solution in a few typical cases of exophthalmic goiter; the diagnosis in all cases was confirmed after thyroidectomy by the pathologic finding of diffuse parenchymatous hypertrophy which is characteristic of exophthalmic goiter. In all cases the general clinical signs and symptoms parallel the course of the basal metabolic rate.

Two metabolism determinations (Chart 1) averaged +44 per cent before the patient was given Lugol's solution, and promptly after the administration the metabolism rapidly dropped to +12 per cent, and there was a corresponding fall in the pulse rate and a gain in weight. In a similar case (Chart 2), three metabolism tests were made before Lugol's solution was started. The magnitude of the drop between the first and second metabolism test corresponds to that frequently obtained from rest in bed. The drop in the basal metabolic rate from +54 to +28 per cent seems due to the influence of the Lugol's solution.

One patient had two metabolism determinations (Chart 3) in December, the rate was +68 per cent, and this remained essentially unchanged three months later, after two ligations and rest at home. The marked drop in the basal metabolic rate from +62 per cent to +31 per cent, with a corresponding decrease in pulse rate and gain in weight, has a very significant time relationship to the administration of Lugol's solution. The same relationship seems to exist in the cases demonstrated in Charts 4 and 5. The evidence presented in Chart 5 is somewhat more convincing, as it was possible to obtain a control period of a week's rest in the hospital without alteration in the metabolism before the administration of Lugol's solution was started; the drop in the basal metabolic rate from +62 to +9 per cent with a corresponding improvement in the clinical symptoms seems to be the direct result of the drug.

The control by Lugol's solution of the nausea and vomiting in the gastrointestinal crises which occur so often in severe cases of exophthalmic

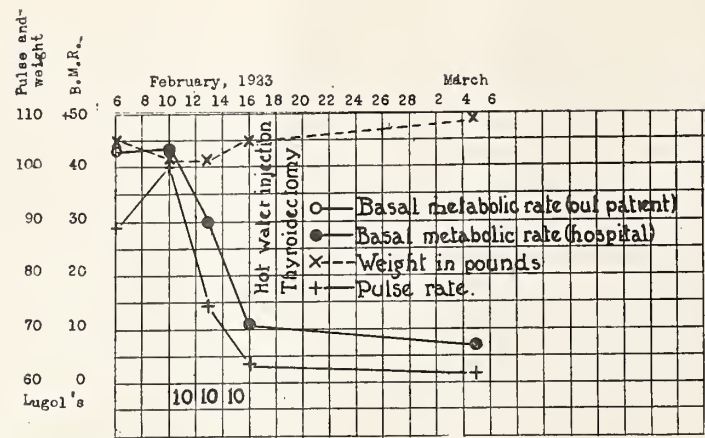


FIGURE 1—(Case A417263), a male, aged twenty-two years. Right lobe of thyroid 2.5 by 4.4 cm., left lobe 2.5 by 4.4 cm. Bruit 1; thrills 1; exophthalmos 1; heart 1.5 by 10 cm.; no edema; slight dyspnea; loss of strength; normal weight 112 pounds. Duration of goiter and symptoms about six months.

goiter is illustrated in Chart 6. The patient entered the hospital in a semi-comatose condition after several days of incessant vomiting of all food and water; her heart was beating so violently that her whole body vibrated with each beat. Thirty drops of Lugol's solution were given immediately by mouth; a part of this was lost by vomiting. Thirty drops were then given by rectum and were mostly retained; a few hours later thirty drops were given by mouth, only a small part of which was lost by vomiting. The next morning the patient ate a light breakfast, most of which was retained; thirty drops of Lugol's solution in divided doses were given that day, and thereafter ten drops a day. On the third and fourth day the patient was eating heartily, and by the fifth day taking a full high calorie diet. Thyroidectomy was performed on the eleventh day with comparatively little reaction. The drop in basal metabolic rate and pulse rate serves as an index of the clinical improvement which was almost unbelievable. The normal values of heat

production in children fourteen years of age are not established with certainty, so the absolute value of the basal metabolic rates given may be somewhat too low, as is suggested by the basal metabolic rate of -28 per cent, two weeks after operation. This patient was dismissed from observation in excellent condition, and neither at that time nor since has presented a picture of post-operative myxedema. The significance of the absolute value of the basal metabolic rate must be accepted with more circumspection in children than in adults, because of the less exact standards at present available for children. The patient whose case is illustrated in Chart 7 presents several definite phases of the problem. The patient entered in crisis, and remained in that condition for two weeks with the basal metabolic rate fluctuating between $+82$ and $+98$ per cent. Within a few days after starting Lugol's solution, there was a rapid drop in the basal metabolic rate and pulse rate. At that time we did not appreciate how rapidly the beneficial effect of

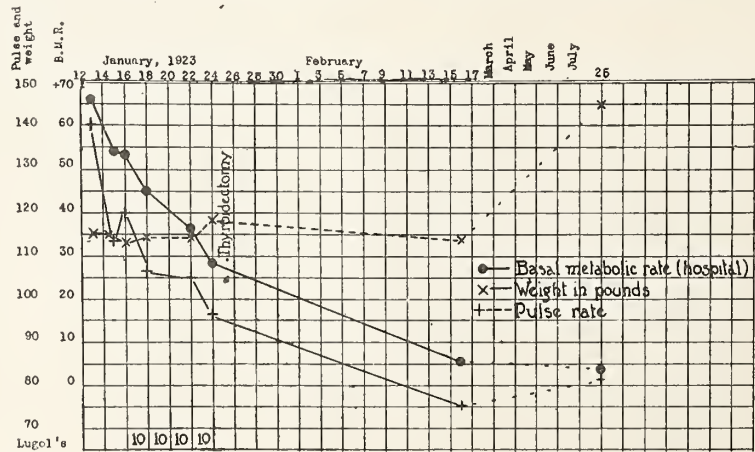


FIGURE 2—(Case A414899), a female, aged forty-four years. Right lobe of thyroid 3.8 by 5.6 cm., left lobe 4.4 by 5.6 cm. Bruit 3; thrill 0; exophthalmos 2+; heart 3 by 10 cm.; slight edema; no dyspnea; loss of strength 2; normal weight 140 pounds.

Duration of goiter fourteen years with marked symptoms lasting three years, followed by recovery. Four months later symptoms returned and rapidly became severe; jaundice. Patient slightly better; after thyroidectomy very much improved.

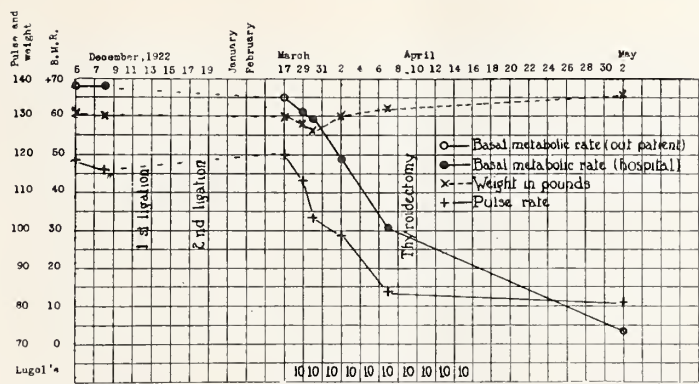


FIGURE 3—(Case A411837), a female, aged thirty years. Right lobe of thyroid 6 by 6 cm. Bruit 2+; thrills 2+; exophthalmos 2; heart 1 by 3.5 cm.; no murmur; heaving; slight edema of the legs; loss of strength; normal weight 138 pounds. Duration of goiter 2.5 years; symptoms about one year. No crisis.

Lugol's solution would pass, after stopping its administration, and it was discontinued at the time of the first ligation. The ligation was without incident, but following it, the metabolism and pulse rapidly rose and were only partly controlled by the administration of Lugol's solution a few days before the second ligation. As a result of several similar experiences, Lugol's solution is now continued through the post-operative period. After the patient's second ligation she went home for two months and returned with increased metabolism, very rapid pulse, marked cardiac decompensation, edema of the extremities, and fluid in the chest; the pressure dyspnea was relieved by aspiration. There was little or no improvement during the first ten days except that the edema cleared up; the metabolism and pulse remained high, as they had on her first visit, in spite of rest in bed. Shortly after Lugol's solution was started the patient's basal metabolic rate, and the pulse rate dropped, and she gained in weight, and improvement in her general clinical condition was marked. As a result, thyroidec-

tomy was performed. The time relationship between the administration of Lugol's solution and the clinical improvement of this patient, as evidenced by the drop in the basal metabolic rate on two separate occasions, seems to be very strong evidence of the beneficial effect of the drug in cases of exophthalmic goiter. Another illustrative case is demonstrated in Chart 8. The patient was first observed in crisis and rapidly improved following the administration of Lugol's solution. After ligation she went home, and for a short period remained about the same, then developed an intense gastrointestinal crisis and rapidly lost seventeen or eighteen pounds, as reported by her home physician, who was advised to give fifteen drops of Lugol's solution a day. The vomiting stopped quickly and in three months the patient had gained sixty-five pounds. A different beneficial effect associated with the post-operative hyperthyroid reaction is illustrated in Chart 9. A young girl was operated on the fifth day after starting Lugol's solution. She had a severe typical post-operative hyperthyroid reaction with an elevation of the temperature

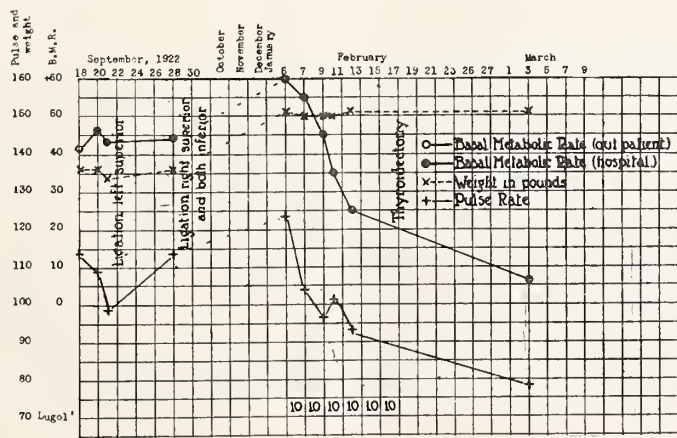


FIGURE 4—(Case A404976), a female, aged thirty-three years. Right lobe of thyroid 4.4 by 6 cm., left lobe 3 by 4 cm. Bruit 2; thrill 2; exophthalmos 1+; heart 2.5 by 11 cm.; systolic murmur at apex; no edema; marked dyspnea; loss of strength 2+; normal weight 155 pounds. Duration of goiter five months; symptoms eight months.

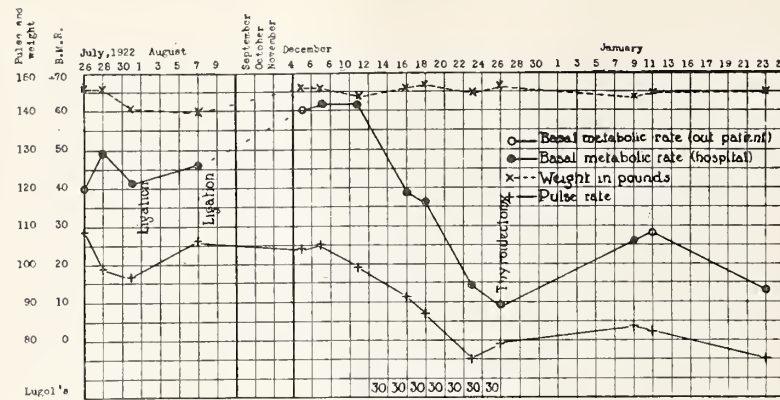


FIGURE 5—(Case A399172), a female, aged thirty-seven years. Right lobe of thyroid 4 by 8 cm., left lobe 3 by 6.9 cm. Bruit 4; thrills 2; exophthalmos 2; heart 3.5 by 11.5 cm.; moderate

edema; marked loss of strength; normal weight 185 to 200 pounds. Duration of goiter three years; marked symptoms two years. No crisis.

to 103.4° a few hours after ligation. Following three ten-drop doses of Lugol's solution by rectum at half-hour intervals, the temperature fell within two hours to normal, and by the next day

the crisis was over. It seems probable that not sufficient Lugol's solution had been given up to the time of operation to protect the patient completely against the development of the thyroid crisis. She was, however, sufficiently near to the point of desired saturation, so that this could be obtained rapidly by increasing the frequency of administration. The main lesson learned from this case is the advisability of postponing operative procedures until it is evident that no further improvement is to be obtained from Lugol's solution. Maximal improvement usually occurs after the drug has been administered eight or ten days, but may be delayed two, or even three weeks, depending apparently on the size and frequency of the dose, as well as on the patient's condition.

The complete avoidance of the hyperthyroid reaction in spite of an intense pneumonic infection is illustrated by the following case (Chart 10). A young girl with severe exophthalmic goiter promptly improved following administration of Lugol's solution. After thyroidectomy she was in good condition for nearly a day, when

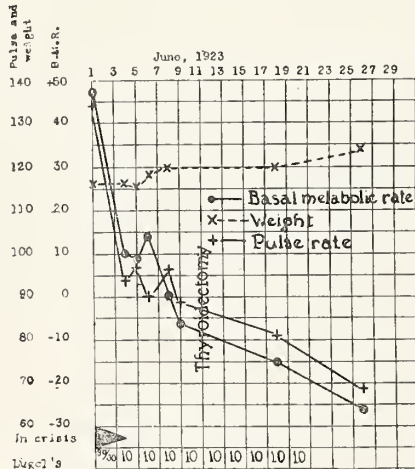


FIGURE 6—(Case A427558), a female, aged fourteen years. Right lobe of thyroid 3.7 by 6 cm., left lobe 3.7 by 3.7 cm. Bruit 1; thrill 0; exophthalmos 0; normal weight 135 pounds; heart 1.5 by 4 cm.; heaving and shaking of body; semi-conscious; dyspnea. Duration of goiter eight years; symptoms only three months, very intense with nausea and vomiting. Patient entered Clinic in typical extreme gastrointestinal crisis.

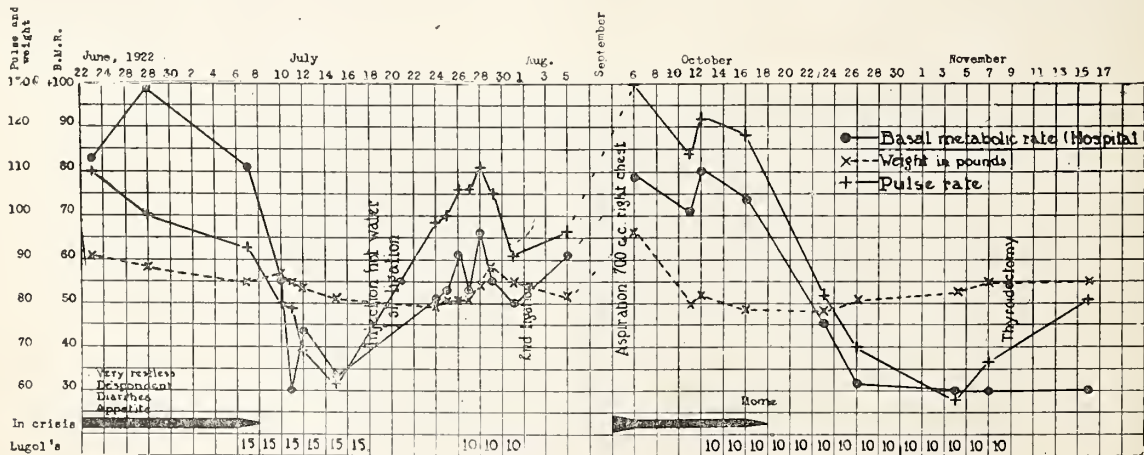


FIGURE 7—(Case A395778), a female, aged forty-six years. Right lobe of thyroid 4 by 6.9 cm., left lobe 3 by 6 cm. Bruit 2; thrill 3; exophthalmos 0; heart 4 by 9 cm.; systolic murmur at apex; no edema; dyspnea on exertion; loss of strength marked;

normal weight 126 pounds. Duration of goiter and symptoms, three months; course intense and progressive. Patient returned without improvement. Heart worse with auricular fibrillation and decompensation.

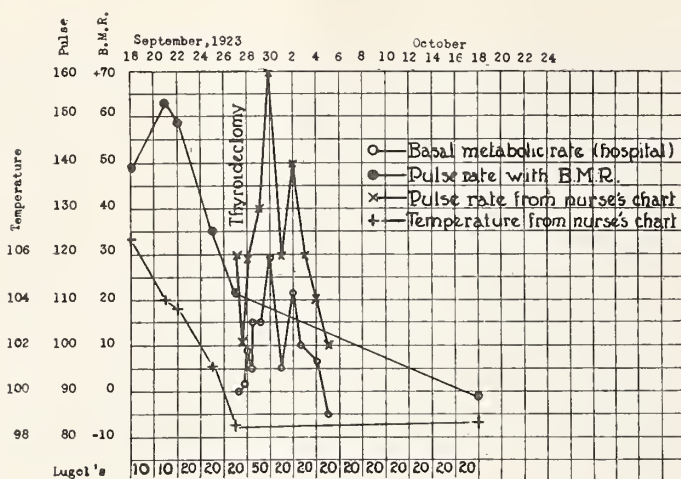


FIGURE 10—(Case A441468), a female, aged seventeen years. Thyroid symmetrically enlarged. Bruit, thrills and exophthalmos present; heart 3 by 8 cm.; harsh systolic and diastolic murmurs at apex suggesting mitral insufficiency and stenosis. Duration

of goiter six months, symptoms increasing in severity three months. Erythema of elbows. Severe post-operative double bronchopneumonia.

tients having exophthalmic goiter, so far treated with Lugol's solution, at the Mayo Clinic, is 600. During this time no patient with unquestioned exophthalmic goiter has been made worse by the Lugol's solution. October 19, a count was made of the patients then in the hospital under treatment for goiter, to estimate the relative frequency of a beneficial effect from the administration of Lugol's solution. There were twenty patients with adenomatous goiter, with or without hyperthyroidism, who did not receive Lugol's solution. Five patients, possibly having adenomatous goiter with hyperthyroidism, were given Lugol's solution because exophthalmic goiter could not be definitely excluded; of these, one improved definitely, and three slightly; the data concerning one patient was not sufficient to base an opinion on. Fifty-six patients had definite exophthalmic goiter, all of whom received Lugol's solution; thirteen of these did not have a sufficient number of metabolism tests on which to base an opinion. Of the forty-three patients carefully studied, sixteen (37 per cent) improved markedly and promptly after the administration of Lugol's solution; fourteen (32 per cent) improved definitely, and eleven (26 per cent) improved only slightly, as after hospitalization and rest; only two (5 per cent) were not affected. From this survey it seems probable that approximately two-thirds of the patients with exophthalmic goiter will be greatly benefited; one-fourth will be slightly benefited; the remainder, or about one patient in twenty, will not be demonstrably benefited. The probability of the iodine doing harm is less than 1 in 600.

As has been reported by Pemberton, the mortality rate following surgical procedures for exophthalmic goiter has been reduced at the Mayo Clinic to 1.7 per cent, based on the number of pa-

tients operated on, and to less than 1 per cent when computed on the basis of the number of operations. Crile was, in the main, correct when he attributed this low mortality rate to surgical technic, instead of to the preoperative treatment and medication. That factors other than surgical technic affect indirectly and in a complicated manner the surgical mortality is borne out by the following facts: In 1918 sixteen patients with exophthalmic goiter died before operative procedures were possible; in 1919 eighteen died; in 1920, fifteen; in 1921, ten; in 1922, sixteen, or an average of fifteen deaths during each of the last five years. Until this year no drug was available which was known to influence materially the natural course of the disease, or which could be administered with the expectation that it would avert impending death. During nine and one-half months of the present year, apparently as the result of the treatment with Lugol's solution, only four patients have died before surgical intervention was possible. All who have observed the improvement in the patients with exophthalmic goiter following the administration of this drug are convinced of its value in this disease. Not only has the preoperative mortality rate been reduced, but these patients have afterward been accepted by the surgeons as operative risks. In spite of these initially bad cases being accepted later as operative risks after improvement from Lugol's solution, the surgical mortality rate and the frequency of the typical postoperative hyperthyroid reaction resulting in death has, as shown by Pemberton, progressively decreased.

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CHRONIC FATIGUE INTOXICATION*

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Very early in my medical experience I became impressed with the fact that occasionally patients complain of certain symptoms which do not seem to fit anywhere into the known classification of diseases. As my medical horizon widened I found more and more of these apparently detached manifestations of deviation from the normal, and after about twenty years of careful observation, assiduous search and study, I was able to piece these symptoms together much as one pieces together the disarranged parts of a puzzle map, and out of it arose a perfectly clear-cut symptom complex which I believe is best described by the term chronic fatigue intoxication. This symptom complex is, I believe, as clearly a disease entity as any we have to deal with in medicine.

Chronic fatigue intoxication is a general, chronic, organic, systemic disorder, the result of the gradual accumulation in the tissues of excessive amounts of fatigue material. It manifests itself symptomatically in a deviation from the normal of practically every function of the body in that reaction is out of proportion to the stimulus acting, by more or less generalized tonic muscular spasm, by an inability on the part of the affected individual to secure physical relaxation or mental repose and by a very characteristic group of physical signs and symptoms.

Acute fatigue has been studied repeatedly by both physiologists and internists, but so far as I

have been able to determine no exhaustive clinical study has ever been made of chronic fatigue, and consequently this subject has not received the attention that its prevalence in our modern society merits. I do not wish to convey the impression that this condition is numerically or proportionately very prevalent but since it affects many of our most valuable citizens it is nevertheless of rather serious import from an economic and general welfare standpoint. It affects almost exclusively the ambitious, the spirited, and the strong-willed, who from a sense of duty or borne on by their enthusiasm drive their bodies beyond the limit of physical safety and who, before they are aware, have hypersaturated their system with fatigue material to such a degree as to make it impossible for the organism to again rid itself unaided of this toxic substance, and when this has once persisted for any considerable length of time the whole physical, psychic, and moral nature of the individual often becomes so changed, the judgment becomes so warped, that the individual can rarely get back to normal without outside help.

The sloven, the laggard, the phlegmatic and the weak willed are rarely ever affected. It attacks the finest type of men and women usually in middle life, greatly shortens their period of usefulness and their enjoyment of life, leaves them partial wrecks or complete derelicts just at a time when their experience and mature judgment would make them especially useful to the community, state and nation; wracks their later years with pain and suffering and robs the aged of that peace and serenity to which those who have faithfully served their fellow men are justly entitled.

Physical overwork or overstress continued for a considerable period of time, which produces waste more rapidly or far in excess of the power of elimination is the basis for the development of this condition in all cases. It is much more likely to occur if the individual works at a speed in excess of his normal speed or carries a load in excess of his normal carrying power. Each individual has a certain speed and a certain capacity for work at which speed and capacity he can accomplish the most with the least wear on his system. If he exceeds this speed or stress for any considerable length of time he is almost sure to develop this condition. Among the cases which I have most frequently noted as contributory to physical overstrain in the production of chronic fatigue intoxication, I would mention overwork shortly after a severe illness such as typhoid fever, septic infections, puerperal sepsis, rheumatism; continued exposures to befouled, vitiated

*Read before the Tri-State Medical Society at Peoria, Illinois, October 31, 1922. (Permission to publish granted only on condition that copyright be waived.)

air in ill ventilated, overcrowded workshops and living apartments; exposure to coal gas and sewer gas. I believe this latter is so very harmful because it makes it impossible for the system to throw off the fatigue material which constantly forms even under normal conditions. I have had a number of cases who were in the habit of sleeping in rooms heated with coal stoves in which the dampers were shut down during the night, who with moderate physical work developed this condition from which I was unable to relieve them until they moved out of their stove heated apartments, when they promptly recovered under suitable treatment.

Long continued excessive loss of sleep coupled with moderate work as well as excesses of all kinds such as the excessive use of narcotics and alcoholic stimulants favor its development. Exposure to extreme heat or extreme cold when oft repeated or continued for long periods of time may be contributory factors.

Whether mental overwork alone will produce this condition or not I am not able to say definitely because in none of the cases of this type which I have treated and studied was it possible to absolutely determine just what part the mental overwork played and what part might have been due to possible eye strain, because nearly all of the mental overwork cases were compelled to use their eyes a great deal in their study.

That mental overwork and emotional overstimulation are often contributory causes is quite evident, but whether either one alone or both combined are ever able to produce it, is very doubtful; at least so far as my observation goes, every typical case which I have examined has had physical overwork as its origin.

The foundation for this affection is very frequently laid during the period of adolescence, the years when ambition is apt to run riot and when the wish and the will to do and dare far exceed the physical strength to execute.

Ordinarily the body rapidly recuperates from moderately excessive fatigue but if this excessive exertion is persisted in day after day for a considerable period of time and particularly if the work is done at an abnormally high rate of speed, the point ultimately comes when the system becomes so supersaturated with fatigue material that it is no longer able to rid itself of this excessive accumulation unaided.

This disease is if anything more protein in its manifestations than is lues. Its symptoms may on occasions simulate a great variety of both chronic and acute affections. But this is not all. In addition a patient suffering from this affection

may, like a patient suffering from lues, go through a large gamut of varying symptoms during the progress of his illness, symptoms which apparently bear no relation to each other, and which may even on the surface appear contradictory. As in lues it took centuries to discover the relation between the different stages of the disease, and it is only within the last two decades that the relationship between the first three stages and the fourth stage was completely worked out, so in this affection the great number and variety of symptoms have made a clear understanding of the whole rather difficult.

The disease under consideration may conveniently be divided into two stages, namely, the acute, early, active or labile stage and the late, fully developed, chronic, or stabile stage. These two stages while relatively distinct nevertheless gradually merge into each other and the whole symptom complex may be further obscured and complicated by the acute recrudescences and exacerbations to which the chronic stage is liable at any time. That these two stages are actually part and parcel of the same disease, in spite of their oft seeming incongruity and contradictoriness, can readily be determined if one will carefully study the histories of these cases, study the patients carefully in the different stages, and observe the development of the disease in the horse, the animal most suitable for experimentation along this line, and further if one will observe the retrogression under treatment, for the retrogression is much the same as the development; only that it takes place in the reverse order.

One of the most characteristic symptoms of this condition is the fact that reaction is always out of proportion to the stimulus acting; and this applies with equal force to physical stimuli and physical reactions, and to emotional stimuli and emotional reactions. In the acute labile stage the resultant reaction is out of all proportion in its intensity, while in the chronic stage the reaction is disproportionately sluggish and feeble.

Another very noticeable peculiarity is that as it progresses the area of normalcy in any one field may become very much contracted. Thus, for instance, the reaction to heat or cold may be greatly accentuated. Such a person may feel relatively comfortable at a temperature varying between 68 and 72 degrees F.; may feel oppressed and begin to perspire profusely on the slightest exertion if the temperature rises to 80 degrees F.; and suffer from chilliness if it drops to 60 degrees F., while a normal person would scarcely be conscious of the fact that the temperature had undergone any variation whatever. This besides

being an evidence of hypersensitiveness is evidence of the lack of power of quick adjustment of variations in the environment. In the above illustration the heat regulating center responds too slowly while in other instances other centers may react too quickly or too violently. Similar phenomena may occur with any form of stimulation to which the organism may be subjected. In addition the overworked person is less capable of responding to a given demand, in fact the time may come when it is utterly impossible for him to respond to even normal demands, and this applies not only to demands upon his muscles both voluntary and involuntary but to all bodily functions.

A more detailed enumeration of the symptoms of this affection can be found in the Illinois Medical Journal of February, 1922 and September, 1922.

Chronic fatigue intoxication is about as pleomorphic a disease as is syphilis and like syphilis may simulate almost every other disease known to medical science. If it is true, as I believe it is, as Prof. Hyde repeatedly said in his clinics that 'no man can be a truly great internist or for that matter, specialist of any kind, without a thorough and comprehensive knowledge of syphilis in all its manifestations,' I believe the same statement is equally true of the disease here under consideration. However, in uncomplicated moderately and well advanced cases the diagnosis offers little difficulty if one keep in mind the very characteristic signs and symptoms and will look for them in every case where the diagnosis of this condition is at all in question. The most characteristic and never failing signs and symptoms in the moderately advanced and well advanced cases are tonic muscle spasm; tender, painful, circumscribed deposits in the tendons of origin of the larger skeletal muscles, in the subcutaneous areolar tissues, and in the intermuscular septa; and the very peculiar and characteristic patches of thickened skin. While we have chronic muscle spasm in various other affections, as in the later stages of hemiplegia following cerebral thrombosis and hemorrhage, the hemiplegias of childhood and in Little's disease, tetanus, and possibly a few others, because of their general dissimilarity none of these offer serious difficulty in diagnosis. In the very early and the late terminal cases more difficulty is encountered, and the greatest difficulty will be met with if this condition is complicated by some other affection or if it complicates some other disease. Thus, while ordinarily it need not be particularly difficult to make a differential diagnosis between this condi-

tion and gall-stones, though I have seen these two conditions repeatedly confused in diagnosis, gall-stones may actually complicate this condition, and then the making of correct double diagnosis presents considerable difficulty. I have actually had several of these cases where complete restoration of health did not occur until the one was relieved by operation and the other by suitable after treatment. Quite a number of the chronic fatigue intoxication patients have a very tender, painful deposit at the tendinous insertion of the rectus abdominis on the tip of the right seventh costal cartilage, which has misled many an abdominal surgeon into the belief that such a patient is actually suffering from gall-stones; however on careful examination it can be ascertained that this point of tenderness is caused by a little pea-sized deposit which can actually be felt to move under the examining finger, and which is exquisitely tender and can be removed by a few properly given massage treatments, when the pseudo gall-stone symptoms will promptly disappear. An additional point in helping to make the diagnosis is the fact that in almost every such case a corresponding similar deposit is located over the tip of the seventh costal cartilage of the left side and often other similar deposits at the other points of insertion of the rectus abdominis on the lips of the fifth and sixth cartilages on both sides and also on the ensiform. One point, however, which is confusing and may easily mislead, is the fact that in this condition, as well as in gall-stones and other gall-bladder diseases, the right rectus is usually tense. However, if gall-bladder disease does not co-exist and if one will be careful in making the examination not to traumatize the little tender deposit on the tip of the fifth, sixth and seventh cartilages, one can usually make pressure under the costal arch, get the muscle to relax fairly well and then discover that there is no tenderness over the gall-bladder itself. If on the other hand, gall-bladder disease co-exists with this condition, the gall-bladder also is likely to be tender and the rectus muscle will not relax at all. The differential diagnosis between gall-bladder disease and this condition is sometimes further complicated by the fact that quite a large per cent of the more severe cases of chronic fatigue intoxication actually present a distinct sub-icteric condition of the sclera and the skin is often muddy, closely simulating true jaundice. Quite a number of cases have come to my attention where an abdominal section had previously been made with the expectation of finding gall-stones or other gall-bladder disease, where no stones were found and where drainage or even cholecystec-

tomy gave no relief either from the pain, digestive disturbances or discoloration of the sclera and skin; where I was able to demonstrate a sufficient number of the unmistakable signs to make a positive diagnosis of this condition, and where I was actually able by suitable treatment to secure a complete cure without further operative intervention.

Probably the most frequent difficulty in making a differential diagnosis is encountered in differentiating the various neuralgias so frequently a part of this disease from various other conditions. Every clinician of large and varied experience is fully aware of the fact that wherever pain exists we must always consider the possibility of neuralgia. Here we have the advantage of having other signs and symptoms to help us out in our diagnosis, signs and symptoms which I am inclined to believe have heretofore usually been neglected in making these differential diagnoses. We all know that ordinarily it is very difficult to exclude the possibility of neuritis wherever pain exists and we must sometimes make a differential diagnosis between this condition and any of the diseases which may be mistaken for neuritis. Thus for instance, not long ago I saw a case suffering from this condition and a part of the general symptoms was a severe neuritis of the right small occipital nerve, which resulted in the faulty diagnosis of a right acute mastoiditis. On careful examination I was able to convince myself that the tenderness over the mastoid bone was simply a part of the general condition of chronic fatigue intoxication. Subsequent progress of the case proved the correctness of this conclusion. A short time later I saw a case that had been diagnosed as acute tonsilitis where, as a matter of fact, the patient was simply suffering from a neuritis of the sensory nerve of the tonsil. It apparently had never occurred to the specialist who had advised a tonsillectomy that one sided tonsillitis is an exceedingly rare condition. I have also seen quite a number of cases of trifacial neuralgia which were thought to be caused by defective teeth, in which neuralgia was simply a part of the general condition. In a number of these cases perfectly healthy teeth had been sacrificed without a particle of relief. One very severe case of supposed infection of the left antrum was also found to be simply a trifacial neuralgia due to this condition.

An intercostal neuralgia due to this condition is sometimes mistaken for a dry pleurisy. A deposit on the sensory nerve supplying the skin over McBurney's point has repeatedly been mistaken for appendicitis. I have seen a number of cases

that had been operated upon for appendicitis where the pain was not relieved, where this deposit could actually be demonstrated and where the patient recovered completely under suitable treatment without further operation. A deposit over the sacro-iliac joint is frequently mistaken for sacro-iliac disease. This mistake need, however, not occur if one will look for the other symptoms of this disease on the one hand and carefully look for the other symptoms of sacro-iliac disease on the other hand. In the first instance the deposit can always be found and in the second instance lateral pressure upon the ilium always elicits characteristic pain symptoms. The correct diagnosis in a severe case of pruritus is sometimes rather difficult. However, if the case comes to the physician before it is obscured by scratch marks, the difficulty is not so great, for in a pruritus caused by this condition numerous other characteristic symptoms and signs can always be found. If jaundice due to gall-bladder disease, or cachexia due to malignant disease can be excluded, as it usually can without difficulty in these cases, it is well to look for other symptoms of chronic fatigue intoxication in all cases of pruritus where a local cause cannot be found.

A differential diagnosis between spastic flat-foot and this condition is sometimes difficult, particularly as spastic flat-foot is a frequent complication. However, if careful search is made and other symptoms of this condition cannot be found, the diagnosis of spastic flatfoot uncomplicated by chronic fatigue intoxication can usually safely be made.

The differentiation between the joint manifestations of this disease and independent joint diseases such as joint tuberculosis, seems to offer the greatest difficulties and is probably the most common source of error in diagnosis. Thus, I have seen a number of cases of chronic fatigue intoxication that have been wrongly diagnosed as spinal caries and tuberculosis of the joints of the lower extremities. While joint tuberculosis is practically always accompanied with muscle spasm and atrophy of certain groups of muscles, the muscle spasm and muscle atrophy involve only those muscles which have to do with the movements of the involved joint. Such localized muscle spasm and muscle atrophy is practically unknown in chronic fatigue intoxication. In addition, the joint involvements in this condition are much more insidious in their onset, confined to periarticular structures, less diffuse and the joint is less painful on passive motion.

We still frequently hear the term—"chronic muscular rheumatism." I am very doubtful

whether there is such an independent disease and am inclined to believe that what is thus named is instead always merely a symptom of chronic fatigue intoxication.

This disease is, I believe, sometimes wrongly diagnosed as "chronic spinal muscular atrophy," or as some neurologist called it—"progressive muscular atrophy." True progressive muscular atrophy is now considered to be a disease of the gray substance of the cord in which there is an actual wasting of the ganglion cells. In the early stages of the disease under consideration there can scarcely be any destruction of the ganglion cells, otherwise the recovery and regeneration of the muscles could hardly be as perfect as it actually is. Whether this disease may sometimes result in chronic spinal muscular atrophy and the latter in such cases be simply the terminal stage of chronic fatigue intoxication, is a question the answer to which I believe will have to be deferred for the present.

In all cases where a differential diagnosis between this condition and other affections must be made, it is of course very important to look for and find a sufficient number of the important unmistakable signs and symptoms before a definite, positive diagnosis is made.

CONCLUSION

The purpose of this paper is to arouse the interest of the general practitioner and the various specialists in a rather prevalent heretofore neglected condition which I consider a definite disease entity.

INTESTINAL OBSTRUCTION*

GEORGE M. CRABB, M.D., F.A.C.S., Mason City

A young man twenty-three years of age, who had always been well except for an occasional attack of pain in the abdomen, was suddenly seized with pain in the abdomen about midnight, May 5, 1923. The pain was in the upper abdomen and he felt nauseated but did not vomit until about two hours after the onset of the pain. The pain continued all during the 6th of May and he vomited repeatedly. His bowels moved once or twice during the day. The pain continued and he was unable to sleep. I saw him on the 7th of May, about forty-eight hours after the onset, when he was complaining of pain, cramp-like in character, but located in the lower half of the abdomen. He was lying on his left side, with his

thighs flexed on the body. There was an anxious expression of the face. His pulse was rapid and of poor quality, his temperature subnormal. The chest examination was negative. The abdomen was distended, the abdominal muscles were all rigid and deep pressure caused pain. White blood count 13,600. I made a diagnosis of an acute abdomen, and advised immediate operation.

At operation, I found free bloody fluid in the peritoneal cavity. The small bowel was distended and very red, the colon was collapsed and normal in appearance. The appendix was not involved and I found a Meckel's diverticulum which was very large and it had a separate mesentery extending from the site of the diverticulum to the normal mesenteric root. A loop of small bowel had herniated throughout this abnormal band of mesentery and was completely strangulated. The obstruction was relieved by cutting the band, the diverticulum cut away and repaired. The operation lasted about forty minutes. He died about twenty-four hours later, presenting a typical picture of toxemia and collapse.

Another case—A boy, sixteen years of age, three days previous to entering the hospital had severe pain in the abdomen. This was followed on the second day by pain and continued vomiting. A doctor was called who gave an enema and morphine without relief. The pain, continued, cramp-like in character. The doctor stated that he had seen him ten years ago with a similar attack of pain and he got well. Examination, on admission to the hospital showed the typical picture of the acute abdomen with well advanced signs of peritonitis and intestinal obstruction. Immediate laparotomy revealed a complete volvulus of the small intestine with thrombosis of the superior mesenteric vein, and the entire small intestine almost gangrenous.

A hopeless picture; death followed in a few hours, and a post-mortem revealed a complete volvulus of the entire mesentery because of a congenital absence of the mesenteric root.

Another case—A young athlete, nineteen years of age and a fine physical specimen, five days previous was seized with pain in the abdomen while playing baseball. His mother gave him large doses of epsom salts but the pain continued. He stated that he had a diarrhea. He vomited several times, but vomiting was not marked in this case, considering its seriousness. The local physician was called and gave morphine without relief. On the 5th day, when he entered the hospital, he also presented the typical picture of the acute abdomen with peritonitis, a leucocyte count of 16,100. Immediate operation revealed a loop

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of small bowel twisted and incarcerated in the pelvis with about four inches of gangrenous bowel. His condition did not warrant a resection as there was a general peritonitis with a large amount of free pus in the abdomen. An ileostomy was done but he succumbed about thirty hours later from toxemia.

My purpose of reciting to you the histories of these three fatal cases of intestinal obstruction is to impress upon you if I can the importance of the subject that I have chosen for discussion this afternoon.

Intestinal obstruction and its high mortality is one of the unsolved problems of modern medical science. It carries a higher mortality than any of the acute abdominal conditions with the possible exception of acute hemorrhagic pancreatitis. The other acute conditions such as appendicitis, gall-bladder disease, and gastric and duodenal ulcer perforations have yielded to modern surgery. Reports of cases both operated and unoperated from our best surgical clinics give a mortality rate ranging from 40 to 60 per cent. Reports of cases operated within the first twelve to twenty-four hours shows mortality ranging from 10 to 20 per cent while these cases operated forty-eight hours after the onset, show a mortality of 50 to 75 per cent. Moynihan has very aptly stated that anything over 10 per cent is the mortality of delay.

When we attempt to analyze cases of acute intestinal obstruction, we find that they fall into two groups. The first and larger group comprises those cases following a more or less prolonged period of abdominal symptoms; and are the result of bands, adhesions, congenital or post-operative; obstructions from slowly developing external pressure by new growths, also slowly developing new growths within the lumen of the bowel itself; as well as foreign bodies and fecal impactions. The second and smaller group comprises those cases that come on without previous symptoms such as volvulus, intusseption, internal hernial, and mesenteric thrombosis. The result is the same in every case, narrowing of the intestinal lumen more or less complete. This is followed by interference with the circulation of the intestine which may lead to gangrene, perforation and peritonitis.

The symptomatology is comparatively simple and this may be one reason for our many mistakes or delays in diagnosis. It is always characterized by sudden onset of pain followed by vomiting. The pain is cramp-like but persistent during the first twenty-four hours. The pain is a result of the contraction of the musculature

above the obstruction and is aggravated both by food and cathartics and is not relieved by enemas. There may be one or more normal stools at the beginning if enemas are given, emptying that portion below the obstruction but this is always followed by constipation. At the end of twenty-four hours, the musculature of the intestine tires out, the pain subsides and abdominal distention comes and should be recognized as a danger sign. There is rarely any temperature until well developed and a secondary peritonitis supervenes. The late signs and symptoms are collapse, cold perspiration, sub-normal temperature, a rapid fall in blood-pressure, a rapid and thready pulse with increasing tympany.

The diagnosis should be made early on finding an individual with a sudden onset of pain in the abdomen followed by persistent vomiting. The location of the pain is not important as we are apt to find the obstruction in any part of the abdomen. The giving of enema without any result should make one suspicious of some sort of obstruction and should put the attendant on his guard. Once there is sufficient evidence to make one suspect an intestinal obstruction, he should not wait for the development of the complete clinical picture.

Finney of Baltimore writing on this subject says, "always to wait for a sure diagnosis before operating is sometimes to lose the golden opportunity to benefit your patient. Better a few unnecessary exploratory incisions on live patients than a continuance of the long and melancholy role of hurried enterostomies done on moribund patients."

The differential diagnosis should be made from the following conditions but in most of these, the picture is almost wholly different. Gall bladder or duct colic, renal colic, acute poisoning from food or chemical, pyloric stenosis. Lead colic may be responsible for a symptom complex resembling an acute obstruction but the blood picture and history help us out of the difficulty very readily. Hemorrhagic pancreatitis is usually mentioned as one of the differential points but it is doubtful if a differentiation can be made, but as both demand immediate operation, it is not necessary that a definite diagnosis be made. Gastric and duodenal ulcer perforation can usually be diagnosed on their history.

The treatment in practically every case is operative and demands in many cases the keenest surgical judgment. The operation consists in relieving the obstruction. This may be very simple as in cutting a band that has acted as a mechanical obstruction or it may be very difficult if a resec-

tion of a loop of gangrenous gut is the procedure necessary. Surgical judgment must be exercised. Can this particular patient survive a resection or other operative procedure, or should we do a simple enterostomy and wait for a secondary operation to repair the damage.

This brings me to the subject of enterostomy which has been much talked about of late and has been responsible for saving many lives of apparently hopeless cases. We have used it several times with very good results and in view of some of the theories, or explanations for the cause of death, that I shall allude to later, it seems to me that it is a very rational procedure. In addition to our operative treatment, of course, we must keep in mind the supportive treatment such as the administration of normal saline intravenously, transfusion, and any of the measures used for combating shock, which so often follows operations for intestinal obstruction of longer than twenty-four hours duration.

I have listed here twenty cases that have recently come under my observation. The list is far too small to base any mortality statistics upon, but a review of the histories of these twenty cases has impressed upon my mind very forcibly the absolute necessity of an early diagnosis and a conservative procedure so far as the extent of the operations is concerned. I have included in this list a few strangulated hernias, and I should mention that this type of intestinal obstruction has a much lower operative mortality. The hernia is an obvious cause of the obstruction and prompt measures are taken to relieve the obstruction. Of the twenty cases listed, fourteen are of the acute type and were operated upon with six deaths, or 40 per cent mortality. Three of the cases were not operated upon but responded to medical treatment, and two other cases, were only partial and were due to malignant growths within the lumen of the gut. Both were operated, upon one with resection of sixteen inches jejunum, the other with a colostomy and both recovered.

After this review of the subject of intestinal obstruction and a review of a very few personal case histories which shows the average mortality of more than 40 per cent, let us consider the factors that are responsible for this high mortality. What is the cause of death in intestinal obstruction, As I have reviewed the literature on this subject, I find that most investigators are agreed that death is the result of a toxemia, but the exact source of the toxin is a disputed point. Some believe and have attempted to prove by animal experimentation that the toxin responsible for death is of bacterial origin; others, and they

are in the majority, that the toxin is formed in the obstructed loop of bowel, probably from the mucosa without regard to bacterial action. Cannon and Dragstedt point out after very extensive experimental work at the University of Chicago "that the toxemia arising from acute intestinal obstruction is always associated with the presence of a proteolytic flora in the intestinal contents above the point of obstruction and think that this is added evidence that the responsible poisonous substances are of bacterial origin." In an earlier communication Dragstedt, Mooreland and Burcky demonstrated that systemic bacterial invasion does not occur, and they believe that bacterial activity plus necrotic tissue, or the absorption of toxic products resulting from the action of putrefactive bacteria on necrotic tissue is the important factor in the rapid death in simple closed loops of intestine.

Stone in 1920, after some very extensive experiments by himself and in association with Whipple and Davis is of the opinion that a whole series of toxic split-products comprising representatives of both the proteose and amine group is no doubt present in the bowel in intestinal obstruction, and quite possibly active in the lethal results. He summarizes his work stating that the cause of death is a form of chemical intoxication, and the toxic chemicals are developed in the process of protein disintegration.

J. W. Ellis, working at the University of Pennsylvania, has contributed a very exhaustive article and has arrived at some very convincing conclusions. He was able to isolate by chemical means from obstructed loops in dogs, a substance, which, when injected intravenously into other dogs, produced symptoms and death identical with those in cases in which obstruction had been produced. From the injected animals post-mortem he recovered from the intestinal contents the same toxin. This, he was able to carry through a series of four dogs with fatal results and in the fifth, a very severe toxemia without fatal result. In his work, he was impressed with the rapidity with which the toxic element was excreted into the lumen of the intestine. This was shown many times where the dogs died almost immediately after receiving a lethal dose of toxin. Autopsy was performed as soon as death occurred, and he obtained sufficient toxin to kill.

As a result of his observations, he arrived at the conclusions that from the intestinal content in cases of high obstruction, a poison can be isolated by precipitation with alcohol, extraction with boiling water and reprecipitation with magnesium sulphate. He also concluded that this poi-

son is undoubtedly elaborated in the cells of the greater part of the mucosa of the small intestine, but chiefly in the duodenum, and that it is manifestly excreted, partly into the lumen of the intestine, but the larger part passes into the lymph stream.

From a review of clinical cases and mortality statistics, as well as the experimental work, we can not help but be impressed with the fact that we are dealing with a very serious situation when we are called upon to treat a case of acute intestinal obstruction. Also, it is very evident that if the mortality rate is to be lowered, we must be alert and make a diagnosis at the earliest possible moment.

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HISTORY OF MEDICINE IN IOWA

INSANE HOSPITALS

D. S. FAIRCHILD, M.D., F.A.C.S., Clinton

A history of medicine in Iowa would not be complete without a reference to our public institutions for the care of the mentally afflicted. While mental disease constitutes a specialty of itself, it has so wide a relation to the general practice of medicine that it cannot be omitted from general consideration.

The practice of medicine as we have thus far considered it has been as a private business, developing in a new country in a way and under circumstances so different from our present conception of medicine, that we are liable to think of the days before the development of the "Germ Theory of Disease," as belonging to a past age and to disassociate it with the present. Fortunately such views are held largely by those who make the practice of medicine a trade. The men whom we delight to look upon as men of broad and liberal views, clearly understand that so difficult and complex a subject as medicine requires a long period of evolution and could only develop with the advancement of science. The private or

general practitioner utilized so far as possible the revelations of science in his daily work, but the fullest realization of the discoveries of science needed the cooperation of institutions of learning and the institutional care of patients where scientific methods of treatment could be employed in a manner not possible for the private physician. We have endeavored to point out the contributions of men obliged to depend largely on their own resources.

The physicians connected with the hospitals for the insane were in a position to utilize the resources placed in their hands by the state and could remain stationary or extend their opportunities according to the industry, skill and ability of the responsible medical officers.

The early history of insane hospitals and the treatment accorded their inmates was tragic indeed, but fortunately for us, this period had passed before our institutions were organized, but we were not free from the tradition that insane hospitals were for the care of the insane and only incidentally for treatment.

Dr. Gershom H. Hill has kindly agreed to write of the evolution of psychiatry in the United States, with biographical sketches of the superintendents of Iowa insane hospitals and their work.

PSYCHIATRISTS OF IOWA

GERSHOM H. HILL, Des Moines

Beginning with Dr. Patterson, the first superintendent of the State Hospital at Mount Pleasant, and ending with Dr. Lowrey, assistant director of the new psychopathic hospital at Iowa City, Iowa, a biographical sketch will be furnished to the readers of the Journal of twenty men, who in the past were known as alienists.

INTRODUCTORY STATEMENTS

The task of preparing the histories of these fellow practitioners is undertaken because the writer has had the privilege of a personal acquaintance with each and every one of them, also has a distinct knowledge of the services rendered by them to the state of Iowa.

"The Association of Medical Superintendents of American Institutions for the Insane" began with thirteen members, in 1844, in Philadelphia. It met annually in different states where there were institutions for the insane. In 1893 the name was changed to "The American Psychological Association" and in 1920 to "The American Psychiatric Association." The first meeting was held at Jones Hotel in Philadelphia. On this occasion there were present: Dr. Samuel B. Woodward of Worcester State Hospital, Massachu-

setts; Dr. Isaac Ray of the Maine State Hospital for the Insane, Augusta, Maine; Dr. Luther V. Bell of the McLean Asylum at Somerville, Massachusetts; Dr. Charles H. Stedman of the Boston Lunatic Asylum; Dr. John B. Butler of the Hartford Retreat, Connecticut; Dr. Amariah Brigham of the State Lunatic Asylum at Utica, New York.

With these charter members this organization has grown, by having in it not only the heads of the state and private institutions for the insane, but also many of their experienced assistants, besides psychiatrists and neurologists engaged in private practice, so that the total membership at present is nearly one thousand.

A knowledge of mental diseases, especially the causes of them, has, like civilization itself, been an evolutionary process. Thousands of years ago the heathen believed that diseases came from an unknown world, often directly from God. The Christianity of the New Testament does not materially modify the belief in demonology.

In the reign of Edward II it was enacted that "the King shall have the custody of the lands of natural fools, taking the property of them without waste or destruction, and shall find them their necessities, of whosoever the lands are holden; and after the death of such idiots, he shall render the same to the right heirs, so that such idiots shall not be alien, nor their heirs be disinherited." The Vagrant Act, however, passed in the year 1744, may be regarded as containing the earliest provision made in England for the safe custody of lunatics. Two justices were by it authorized to secure any furious or dangerous lunatic, and to order that such be locked up, and if necessary, be chained. Whatever property he possessed was employed in his maintenance, and his place of settlement determined.

So far back as the year 1763, a committee of the House of Commons investigated the condition of houses in which the insane were confined, and discovered, as might be expected, their fearfully neglected condition. In the following year a bill was introduced for the regulation of private asylums and "mad houses."

In the early history of this country demented persons who could not care for themselves, nor be controlled by relatives, were restrained at first in improvised places in company with paupers and criminals.

The earliest legal recognition of the insane is the adoption of an act in 1751, in South Carolina, which provides for the subsistence of slaves who may become lunatics, while belonging to owners too poor to care for them.

The Eastern Lunatic Asylum at Williamsburg, Virginia, is the oldest state hospital in the United States. It was established in 1774.

The history of insanity has its pioneers in this country and elsewhere, its heroes and heroines; but from the standpoint of personal labors to promote practical reforms in public provision for the insane, the work of Dorothea Dix stands pre-eminent. In the forty years of her public work she was instrumental in founding and enlarging more than thirty state institutions for the custody and right treatment of the insane, becoming an acknowledged power in this respect, not only throughout the United States, but in European countries as well. Miss Dix was born in Maine in 1802, gained an enviable reputation in charge of "Dix Mansion and Boarding School" in Boston. When thirty-nine years of age she became interested in prisons and prison reform, and entered upon her career as a world wide practical philanthropist. In 1854, Miss Dix spent seven months visiting in Great Britain, Paris, Rome, Constantinople, Hungary, Austria, Russia, Sweden, Denmark, Holland and Belgium. She was cordially received and questioned everywhere. Although her strength had been severely taxed, she lived to be eighty-five years old. During the declining years of her life she was physically incapacitated, but her mind was unimpaired. During the last five years, from choice, she made her permanent home in the state hospital at Trenton, New Jersey, where she was well cared for, and frequently visited by notable friends from far and near.

Florence Nightingale was born in Italy in 1823, had wealthy English parents, and early devoted herself to nursing the sick, and was permitted to enter the Crimean War and first distinguished herself in the relief of suffering among the soldiers in Constantinople. She is the patron saint of all educated nurses, and died a few years after the hospital at Mount Pleasant was opened. Thus the way was paved to establish training schools for nurses in the state hospitals and other establishments where insane persons are cared for.

After the Civil War came a period of prosperity in Iowa, also in the states and territories west of the Mississippi River. Railroads were extended and new ones constructed; the population of the west rapidly increased. It is observed, however, that most of the pioneers were young, single or married, and in making homes for themselves in Iowa, left their demented relatives to be cared for in eastern institutions, so that the proportion of insane in Iowa was less than in the older states, and in states containing large cities. But now the population of Iowa is not increasing very much, and the statistics show that

a large proportion of the patients in the four state hospitals are natives of Iowa.

R. J. PATTERSON, M.D.

The Hospital for the Insane at Mount Pleasant, Iowa, was finished and ready for occupancy the first of March, 1861. In the organization of the hospital the trustees felt that there was not a more responsible duty devolving upon them than the selection of the resident officers, especially of the superintendent, for upon the capacity of this officer must chiefly depend the success of the institution in accomplishing the design of its creation and its claim to the public confidence. Happily Iowa from its wealth and resources, from its increasing population, and from its high prospects of future prosperity, enjoys so high a reputation abroad, that many of the most distinguished and experienced physicians of the country were ready to accept this most difficult post. The trustees believed that the field of choice should not be circumscribed.

From the many eminent physicians who were recommended to them, they selected Dr. R. J. Patterson of Ohio. Dr. Patterson had had ample experience in the department of medical practice to which he was called. He had been for several years assistant physician in the State Lunatic Hospital of Ohio; afterward, for several years, superintendent of the Hospital for the Insane of the State of Indiana; and at the time of his appointment to this situation, superintendent of the Asylum for Idiots and Imbecile Youths of the State of Ohio.

In accordance with the provision of law, the trustees fixed the price of board and the care of patients at two dollars and fifty cents per week. They were not able to determine the actual cost of board per week for each patient, but they were confident that it would not exceed the sum established, and they hoped it would be less.

In the first printed report made December 1, 1861, we find the superintendent's opinion concerning the causes of insanity. "The popular tendency to refer every case of insanity to some particular cause, springs from the very superficial knowledge of the disease. Seldom, in fact, is it produced by any single incident or event. It requires a combination of adverse influences, each of which contributed to the result, though we may be quite incompetent to determine precisely the share which they respectively take. In using the term, "cause of insanity," we mean to designate, not some particular incident having in itself the power of producing the disease, but rather one holding a prominent place in any com-

bination of incidents more or less directly followed by insanity."

Concerning treatment, the doctor explains to the trustees that there are no specifics in the treatment of insanity, but the same general principles must guide us here, that should guide us in the treatment of other diseases. Harsh means, either medical or moral, are in no way suited to the insane, but on the contrary, mild treatment only is allowable.

By the direction of the trustees, the superintendent framed by-laws, setting forth the duties and restrictions for attendants and other employes making a total of eighty-three sections.

In the printed report of December 1, 1865, the trustees have to report a serious cause of regret in the retirement of Dr. Patterson from the office of superintendent.

Immediately after leaving Mount Pleasant he moved to Batavia, Illinois, where he remained the remainder of his life. In 1867 he established the Bellevue Place Sanatorium, with thirty-six beds, for nervous and mental diseases, which is still in operation. Among the notable patients treated by Dr. Patterson was the widow of Abraham Lincoln. He was frequently consulted by the physicians of Chicago, and did some work in the courts. He wrote but little in connection with his specialty, outside of lectures which he delivered at the Chicago Medical College, but was wholly absorbed in the work of teaching and practicing. The clause in the Illinois law for the commitment of the insane, which provides for the appointment of the medical commission by a judge of the court, in lieu of a jury trial, was entirely owing to his strenuous efforts.

He was a large man, five feet and ten inches high, and of heavy build. His hair brown; his eyes hazel; his manner very quick. He was a good and ready talker, but seldom told stories. A little anecdote of his childhood, however, he was fond of narrating. One Sunday morning he ran away from church and caught a fine string of trout. Not daring to bring them home on that day, he hid them. Monday the time still looked suspiciously close to Sunday, so he waited still longer. Tuesday he decided it would be all right to bring them home. Alas! the fish were spoiled. This very deplorable fact led to inquiry and detection. His parents dealt with him after the manner of the real New Englander of that time, and, as the doctor himself was wont to say, in all the affairs of his subsequent life he was inclined to give particular attention to "prognosis."

He was exceedingly fond of driving fast horses. "I take my exercise," said he, "vicari-

ously." He made friends quickly and was fond of children, but very seldom played with them. He married Lucy Clark of Cincinnati, Ohio, in 1848. He died of pneumonia in Batavia, Illinois, April 27, 1893.

DR. MARK RANEY

Dr. Mark Raney was born in Westminster, Vermont, July 7, 1827, and died at the Insane Hospital at Mt. Pleasant February 1, 1882 of pneumonia.

Dr. Raney had received the advantages of a college training, studied medicine with Dr. Campbell of Westminster and in 1849 graduated from the Vermont Medical College. Soon after graduation Dr. Raney was appointed assistant physician to the Butler Hospital at Providence, R. I., under the superintendency of the distinguished alienist Dr. Ray. After five years service, in 1854 was appointed to a more desirable position in the McLean Hospital near Boston, under Dr. Luther V. Bell.

On the resignation of Dr. Patterson as superintendent of the Mt. Pleasant Hospital in 1864, Dr. Raney was appointed to fill the place.

Dr. Raney's scholarly attainments and thorough training under the hands of masters in hospital work well fitted him for a field of great usefulness in directing the Iowa institution. In 1871 he was appointed lecturer on insanity at the medical department of the Iowa University at Iowa City, which position he held at the time of his death. It was the exposure incident to going to Iowa City to lecture, on his way to attend a meeting of the Iowa State Medical Society at Des Moines, that he contracted pneumonia.

Washington, D. C., December—Establishment of a research fellowship at Iowa State College, Ames, Iowa, by the American Bottlers of Carbonated Beverages, with the object of improving the quality of carbonated beverages, commonly known as soda water, is being greeted with the heartiest approval and commendation by experts on food production, including the U. S. Government officials engaged in advisory and regulatory work in connection with the pure food laws. It is also the subject of much favorable comment in magazines presenting the best thought in industrial and scientific circles.

Especially strong approval is given the action of the bottlers of carbonated beverages in obtaining the services of trained scientific men and providing them with a well equipped laboratory, by Dr. J. W. Sale, chemist in charge, water and beverage laboratory, Bureau of Chemistry, U. S. Department of Agriculture. Dr. Sale, who is recognized as one of the world's best authorities on beverages, in a com-

munication to Secretary Junior Owens of the A. B. C. B., 726 Bond building, Washington, D. C., says:

"The announcement of the establishment of a research fellowship at Iowa State College, Ames, Iowa, by the American Bottlers of Carbonated Beverages has been called to my attention. This announcement is of particular interest to me and to others in the Bureau of Chemistry, who as food officials are primarily concerned with the manufacture of food in a cleanly manner from pure and wholesome materials. Your association has taken a most important step forward in deciding to obtain the services of trained scientific men in the solution of your biological and chemical problems.

"Only a few bottlers have established contacts with the professors of biology and chemistry in the colleges of their states, and thus have overlooked an opportunity to increase their knowledge of their business and to raise the sanitary standard of their industry. College professors and their staffs are not as a rule subjected to the rigid restrictions which surround federal and state food officials and are usually glad of the opportunity to make a practical application of their knowledge. These men can give much useful advice and make valuable analyses when bottlers take their problems to them.

"Think what it would mean to the bottling industry if it had one hundred consulting experts making sanitary inspections of bottling plants, investigating the merits of factory equipment, analyzing raw materials and drawing up specifications for same, and disseminating information on technical subjects connected with the bottling industry. It would mean raising the bottling industry to the place now occupied by those other industries concerned with the manufacture of food such as the milling, baking, gelatin and meat packing industries which for years have employed chemists and biologists. Therefore, I take pleasure in congratulating the association on the establishment of this fellowship and trust that it will prove to be so valuable that other similar fellowships will be established and the chemist will come to be recognized as a necessary factor in the business of purveying pure and wholesome carbonated beverages to the public."

(This copy is prepared by the Bureau of Publicity, American Bottlers of Carbonated Beverages, 726 Bond Building, Washington, D. C.)

WHY RAILROAD RATES HAVE INCREASED
IN THE PAST 25 YEARS

Price of coal increased.....	270%
Price of ties increased.....	289%
Price of rails increased.....	129%
Average wages increased.....	194%
Taxes increased	421%
Freight rates increased.....	60%
Passenger rates increased.....	55%

The Journal of the Iowa State Medical Society

D. S. FAIRCHILD, Editor.....Clinton, Iowa

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THE PANEL STRUGGLE IN ENGLAND

A controversy has been going on for some time between the Friendly Insurance Societies and the Insurance Acts Committee of the British Medical Association.

Before the enactment of the Lloyd George panel bill, the Friendly Insurance Societies provided voluntary insurance against sickness and contracted with a large number of doctors for the treatment of their policyholders. On account of the low rate paid by the "Friendly Societies," great dissatisfaction developed among doctors and the result was the enactment by Parliament of the Lloyd George panel law or the National Health Insurance Act.

It appears at the present time there are three parties to the controversy. The medical profession, the Government and the Approved Societies. The profession are contending for a capitation fee of 9 s. and 6 d. The Government is offering 8 s. and 6 d., or one shilling less than the award of 1920. The Approved Societies are contending for a capitation fee of 7 s. and 3 d., for the doctors, holding that if the capitation fee for the medical profession is increased the payment of sick and maternity benefits will be ruinous to them. The medical profession are holding for their capitation fee of 9 s. and 6 d. without any consideration for the Approved Societies, which have done all in their power to discredit the services rendered by the doctors and insisting on a return to the old law of contracting with doctors directly on the lowest possible terms, and great political

pressure has been brought to bear on the government to repeal the National Health Act. The medical profession desire the continuance of the National Health Act with the Approved Societies eliminated, but insist on better terms of compensation, that is, a continuance of the 1920 award of 9 s. and 6 d., with special reference to the rural doctors whose expense is greater for carriage and automobile hire.

At the present time the Government insists on a fee of 8 s. and 6 d. for a period of three years. In the meantime 94 per cent of the panel doctors have resigned—what the Minister of Health calls a "strike." The Government insists that the present condition of the finances are such that it is impossible to pay more. The Minister of Health threatens to close the matter so far as the Government is concerned and let the doctors take care of themselves, which the medical profession in industrial service feel would be disastrous.

The importance of the National Health Act is so vital to industrial workers and to physicians in this service, promises to lead to a thorough investigation on the merits of the controversy and perhaps secure some legislation authorizing the Minister of Health to grant better terms and the force of public opinion will compel the medical profession to continue service until a full investigation is made and some reasonable compensation agreement reached.

When we consider that 8 s. and 6 d. would be a fee of \$2.12 and 9 s. and 6 d. \$2.30, we are not surprised that English doctors feel poor under the present cost of living in England.

FRAUDULENT MEDICAL DIPLOMAS

The recent revelations of sales of medical diplomas brings to us again the interest manifest by the lay press in the welfare of the medical profession. The willingness of certain groups of men to perpetrate frauds on the public when money may be gained is nothing new. The public generally does not seem to be disturbed when quack medicines and quack methods of practice are revealed. But when fraud is practiced as in the sale of the right to practice medicine is discovered, the lay press not only join in with us in suppressing the fraud, but often is the first to bring the fraud to public notice.

Fraudulent methods have a certain economic relationship that reflects on the state or city and disturbs the pride we have in the stability of things. The sale of medical diplomas not only

brings to us the horror we have for gross fraud, but brings with it the danger to the public and to the individual of permitting ignorant and unscrupulous persons administering dangerous drugs. It is fully realized that such dangers may be avoided and such disgraceful things be prevented by proper and wise legislation, clearly for the benefit of the public.

It seems an opportune time to obtain the aid of the lay press in securing proper medical laws in states not adequately protected.

PROPOSED AMENDMENT TO THE CONSTITUTION OF THE AMERICAN MEDICAL ASSOCIATION

It has been proposed to separate the office of editor and manager and make them separate and independent. At the Los Angeles meeting, when the office of secretary was made separate from the position of editor, the writer was at that time convinced that the editor should also be manager, so as to prevent a divided responsibility and possible conflict. We do not believe conditions have changed. The editor of a medical journal who is subject to the direction of a manager, or has his sometimes delicate relationship to the profession disturbed by a manager who may not be in accord with the experienced policy of the editor may lessen the independence and efficiency of the editor. An editor cannot do his best unless he has some considerable autocratic authority. This is particularly true in a great Journal like that of the A. M. A. We can readily conceive that a man that is big enough to be editor of the Journal of the American Medical Association, would hesitate to take up this important work handicapped even by a big and liberal manager, who might have different ideas of what the Journal should be.

It was with these thoughts in mind that the writer introduced in the House of Delegates an amendment at the Los Angeles meeting that the editor of the Journal of the American Medical Association also be manager, and we believe the plan has worked well.

The editor under present conditions is subject to the Board of Trustees, who created him. We are unqualifiedly opposed to dividing the office of editor and manager. The position of editor is an extremely difficult one and the man should be big enough to be let alone and held only for results.

REPORT OF ANESTHESIA COMMITTEE

By Polk County Medical Society

November 27, 1923

REPORT ON ANESTHESIA

The committee appointed by the president of the Polk County Medical Society to investigate and report on anesthesia as practiced in the local hospitals hereby submit the following report:

Records at the following hospitals were checked as follows: Mercy Hospital—Records of all major surgical cases from January 1 to June 30, 1923, checked by Dr. Russell assisted by the Hospital Librarian. Methodist Hospital—Records of all major surgical cases from April 1 to June 30, 1923, checked by Dr. Connell, assisted by the Hospital Librarian. Lutheran Hospital—Records of all major surgical cases from January 1 to June 30, 1923, checked by Dr. Anderson, assisted by the Hospital Librarian.

The Congregational and City Hospitals were not checked for the reason the committee considered it would yield no additional information.

The following table represents a combined classified report of our findings for the periods above mentioned.

	Mercy Hospital	Methodist Hospital	Lutheran Hospital
Ether anes.	332*	328	243
N 2 O anes.	26	30	132
Local anes.	10	17	15
Chloroform anes.	2	1	4
Total	365	376	394
Per cent ether anes.	90	88	62
Per cent N 2 O anes.	7	7.75	33
Per cent local anes.	2.5	4	4
Per cent chlo. anes. ....	.5	.25	1
Per cent administered by nurses.	5	70	55
Per cent administered by physicians	95	30 (b)	45 (c)
Tl. No. of sur. deaths	17 (5-a)	12 (3-a)	12 (1-a)
Per cent sur. mor.	4.7	3.2	3
Per cent mortality in ether cases	3.9	3	4.5
Per cent mortality in N 2 O cases.	20	10	.75(d)

(a) Nitrous oxide cases. These were all very bad surgical risks.

(*) Eighty-five cases which were without surgical or anesthesia records were included in the ether series. In 3 per cent of recorded cases the anesthetic record was not completed. In the last month of the period checked the records were practically complete, showing a gradual improvement from the beginning of the year.

(b) Twenty-two per cent by internes.

(c) None given by internes.

(d) This figure represents the mortality rate in an average series of general surgical cases, plus the bad surgical risks.

The following table represents a classified report on anesthesia from the records of the Iowa Lutheran Hospital during 1921-1922—and the first half of 1923.

	1921	1922	First six months of 1923
Ether	665	686	243
N 2 O	121	277 (d)	132
Local	170	257	92
Chloroform	10	10	4
Total	956	1240	471
Per cent ether anes.....	68.5	55.8	52
Per cent N 2 O anes.....	12.7	22.7	28.
Per cent local anes.....	17.7	20.5	19.
Per cent chlo. anes.....	1.	1.	1.

(d) Forty-seven combined N 2 O and local.

There were two deaths resulting from ether anesthesia during the period checked.

Since then, one N 2 O death and one other ether death have occurred.

The following is a report comparing certain clinical features in a series of fourteen cases representing nearly similar pathological conditions operated under nitrous oxide—oxygen anesthesia and ether anesthesia.

Selected by Dr. Anderson.

Average time of operation under (N 2 O), 64 minutes.

Average time of operation under ether, 45 minutes.

Average pre-operative pulse rate (N 2 O), 77 per minute.

Average pre-operative pulse rate ether, 78 per minute.

Average post-operative pulse rate (N 2 O), 90 per minute.

Average post-operative pulse rate, ether, 100 per minute.

Average time before taking semi-solid food (N 2 O), 4.2 days.

Average time before taking semi-solid food ether, 5.5 days.

Ether cases seemed to have more post-operative abdominal distress (gas pains) but no accurate means of comparison was available.

The series of cases checked by the committee is obviously too small to furnish a satisfactory basis for an accurate estimate of the anesthetic factor in surgical cases, but it does indicate the trend in anesthesia. The bedside records of the patients were deplorably deficient in contents—frequently containing little information pertinent to the clinical condition of the patient. One record even failed to show the patient had died.

We believe that anesthesia is essentially a spec-

ialized surgical procedure which requires a medical education, special training, and long experience, as qualifications for those who undertake this practice. No department in medicine requires more mental concentration, more constant attention to work, or more prompt and accurate interpretation of the clinical condition of the patient than anesthesia.

The practice of anesthesia in this community is evidently about what the surgeons want it to be. Those who want to use local anesthesia can do so to the full extent of their abilities. Those who are satisfied with ether anesthesia and don't care by whom it is administered, get the service which is so generously supplied by the hospitals. For those who want special anesthesia or desire the services of experienced anesthetists these services are available.

We see no reasons why a private institution admitting mostly private cases, attended by private doctors should furnish institutional anesthesia service any more than it should provide obstetrical service, eye, ear, nose and throat service or any other specialized medical or surgical service.

It would seem that this service which so intimately concerns both patient and surgeon should be administered by someone in whom both could place the utmost confidence that this responsibility be properly discharged.

If anesthesia is a nursing service it should be placed under the jurisdiction of the surgical supervisor of the hospital who should have full authority to direct this service.

RECOMMENDATIONS

1. That thick pads be used on operating tables.

2. That oxygen for emergency purposes be instantly available in every operating pavilion.

3. That as soon as feasible only those who have met the legal requirements to practice medicine or dentistry be allowed to administer anesthetics.

4. That more complete records of anesthesia be kept. This record should show the patients condition at fifteen minute intervals during the operation as well as a number of other facts relating to the patients condition before, during and after anesthesia—such a record form has been prepared by the National Anesthesia Research Society and may be secured. If there is objection to having an extra sheet filed with the record, we believe a rubber stamp could be prepared which could be used to stamp the record on the ordinary surgical sheet already in use.

5. That better cooperation be developed between anesthetist and surgeon, by means of which the one may better assist the other in the execution of his work and the protection of the patient.

6. Careful attention to preparation of the patient and scientific anesthesia. In this connection your attention is called to the phenomenal drop in the mortality rate in the surgical treatment of prostatic cases brought about by the above measures during the last few years.

7. Changes in posture of the patient during anesthesia should be made slowly to avoid circulatory and respiratory embarrassment.

8. The use of suction apparatus for removing mucus from throat in etherized cases in place of a mechanical airway.

9. That pre-operative and post-operative blood-pressure readings be taken during anesthesia in some cases.

Committee,

JOHN RUSSELL, M.D., Chairman,

JOHN CONNELL, M.D.

N. BOYD ANDERSON, M.D.

WHAT THE PUBLIC HEALTH SERVICE DOES FOR YOU

In Six Parts—Part I.—Introduction

Comparatively few persons think of the state governments as being a part of the United States Government. But of course they are. The Constitution distributed the governing powers between the federal and the state governments in such a way that the exercise by each of its share is almost imperative for the welfare of both. For either to be obliged to get along without the other would be almost as awkward as it would be to a man to be obliged to get along without one hand; he could learn to do it, of course, but he would have a lot of trouble in learning.

This division of authority applies in all fields of public work, including that of public health. Nearly every health activity in the country has both a national and a state end, which key into each other so intimately that it is often difficult to decide just how any given piece of health work could best be apportioned between the federal and state governments.

Theoretically, such a condition should result in disputes that would lead to nothing being done. But in practice the national authorities (U. S. Public Health Service) and the state health authorities have established so thorough an understanding that the problem becomes simple.

For instance, a number of cities and the neighborhoods in several states recently wished to get rid of mosquitoes and malaria. By agreement the Public Health Service supplied skilled direction, and the states, counties, and cities supplied money and labor. The mosquitoes were promptly cleaned out with a great reduction in illness, deaths, and doctors' bills

and a marked rise in comfort, attractiveness, production, real estate values, and population. Cooperation won the trick.

Similarly in nearly every phase of health work cooperation simplifies the tasks allotted by law.

Broadly speaking, the duties of the Public Health Service are to prevent disease from entering the country from abroad and from spreading from one state to another; to suppress epidemics, investigate diseases, disseminate health information, and attend to some others that are more or less incidental.

The most important of these tasks is the prevention of disease from entering the country and from spreading through it. Exclusion of disease (foreign quarantine) was once entirely in the hands of the states; but has gradually been surrendered by them to the federal authorities, who in the nature of things are much better equipped to manage it.

Prevention of the spread of disease (domestic quarantine) is twosided: the Public Health Service has charge of the state to state spread of disease; and the states have charge of the spread within their respective borders. In practice, however, the nation and the state officers cooperate freely when ever there is danger of an epidemic becoming especially serious.

Next in importance to disease control is the work of the Public Health Service in research—finding out things—in laboratory and in field and in disseminating information as to what has been found out.

Dissemination of health information is enormously important. Other countries, of course, disseminate it; but they do it chiefly for professional men, doctors, bacteriologists, and not until recently for the benefit of the "man of the street." The U. S. Public Health Service, on the other hand, addresses all the people. Some very technical publications are especially for the benefit of scientists, but by far the greater part of its publications deal with subjects that interest the everyday man—and with some that interest the everyday youth.

It disseminates information concerning new investigations, new discoveries, and new methods, by means of printed books, newspaper articles, radio broadcasts, public lectures, demonstrations—and school children. Dissemination by children is very important; for when children learn a thing they can be relied upon to educate their parents.

The task of state health authorities, on the other hand, is to collect vital statistics (records of births, deaths, diseases, etc.); to prevent disease by vaccination, inoculation, and house quarantine of the sick; to supervise drinking water, milk, food, sewers, street sanitation,* school sanitation, etc.; to inspect factories, workshops, etc.; and in some states to provide school nurses and school physicians.

Broadly speaking, the U. S. Public Health Service finds out things and the state and local health authorities apply them; though, of course, the state and local organizations find out a good many things and the Public Health Service applies a good many. Whichever way they work, however, they work together and get the maximum efficiency.

INSULIN TO BE TAXED

The Dominion Government of Canada has issued a ruling that insulin will have to pay a sales tax in common with other articles of commerce. Authorities of the Province of Ontario have sent protests to Ottawa against this ruling inferring that a gift of such worth to the public is not a laboratory product manufactured for profit. The tax is $2\frac{1}{2}$ per cent.

—Jour. A. M. A.

NEW REGULATIONS FOR RESERVE CORPS

The new regulations governing appointment and promotion of the Officers Reserve Corps of the medical department have been made public by the adjutant general of the army. These regulations permit physicians, with or without previous military service, who are graduates of recognized medical schools, to enter the Medical Reserve Corps. Eligibility for promotion is based entirely on length of service. Examination, other than physical, may be waived for all grades, with the exception of promotion from the grade of major to that of lieutenant-colonel.

A study of the regulations show that the war department has arranged the scope of the one professional examination so that a candidate may be examined in the line of special endeavor for which his services would be desired. For original appointees, no other examination, aside from the physical one, is required.

These regulations have been formulated after careful and thorough consideration, and are believed by officials of the war department to form just and equitable standards for determining the rank of former service men in re-entering the Medical Reserve Corps.

For a detailed account of the regulations see Journal A. M. A., December 8, 1923.

CLINICAL CONGRESS OF THE AMERICAN COLLEGE OF SURGEONS

Clinical congress of the American College of Surgeons of the Nebraska section will be convened at Omaha on Monday and Tuesday, February 18 and 19, 1924, at the Hotel Fontanelle, which will be headquarters.

Registration 8:00 to 9:00 a. m. on the mezzanine floor.

Dry clinics will be given in the ball room both forenoons by the Nebraska members and some of the visiting surgeons of national reputation.

The afternoon of Monday from 2:00 to 4:30 p. m. there will be a hospital conference, comprising the following program:

Remarks by the chairman.

Allen D. Craig, M.D., Chicago associate director, American College of Surgeons, will speak on "The

Hospital Requirements of the American College of Surgeons."

Dr. Albert H. Ochsner, president of the college, will speak on "Hospital Standardization as a Factor for Better Surgery."

James T. Case, M.D., Battle Creek, Michigan, surgeon Battle Creek Sanitarium and chief of the department of roentgenology, discusses the "Value of Physiotherapy in Hospitals."

Emil G. Beck, M.D., Chicago, speaks on "Hospital Standardization as a factor in Increasing Hospital Efficiency."

Rev. C. B. Moulinier, S. J., Milwaukee, president Catholic Hospital Association, will present the "Underlying Principles of Hospital Standardization."

Irving Cutter, M.D., dean of the Nebraska College of Medicine, will make observations on the "Results of the Campaign of the American College for Hospital Standardization."

Rev. Father Whelan, S. J., Regent Creighton University Medical College, speaks on "Cooperation in Hospital Standardization."

Annual meeting. 4:30 to 5:00 p. m. Election of officers ensuing year; and Dr. Craig will give an illustrated lecture on the "Activities of the American College."

There will be a dinner for the fellows and guests at the Fontanelle at 6:00 p. m.

From 8:00 to 10:00 p. m. the community health meeting will be held at the new Technical High School, Dr. A. F. Jonas presiding.

Dr. Albert J. Ochsner, president of the college, will give an address on the "Program of the American College of Surgeons."

Dr. Malcom T. MacEachern, associate director, of the College of Surgeons, will speak on the "American College of Surgeons and Better Hospitals."

Rev. C. B. Moulinier, S. J. Milwaukee, president Catholic Hospital Association, subject: "Our People, Our Hospitals and Our Profession."

Dr. Allen D. Craig, associate director of the college will speak on the "American College of Surgeons as a factor in Public Health."

A health film "The Rewards of Courage" will be shown.

This meeting is for the public.

The forenoon of the second day will be occupied with clinics at the hotel ball room.

The afternoon will be devoted to the scientific session.

Dr. Albert J. Ochsner will speak on "Compensation of the Lung in Unilateral Tuberculosis."

Dr. Emil G. Beck, "The Cancer Problem."

Dr. Carl Arthur Hedblom, Mayo Clinic, on "Thoracic Surgery."

Dr. J. S. Welch, Lincoln, "Fractures."

Dr. J. T. Case of Battle Creek, Michigan, "Physic Therapy in the Aftercare of Surgical Cases."

Dr. Herman Von Schulte, dean, Creighton University College of Medicine, Omaha. Subject: To be announced later.

There will also be held on the second day a meet-

ing for the special discussion of hospital problems, to which hospital staffs, superintendents, trustees and benefactors of hospitals are especially invited.

All members of the American College of neighboring states are specially invited. Attendance by non-members of the college will be by invitation.

ANNUAL CLINIC, STATE UNIVERSITY OF IOWA

The annual clinic of the College of Medicine, State University of Iowa, Iowa City, will be held on March 18 and 19, 1924.

The two days will be given over to clinics in surgery, medicine and the surgical and medical specialties. Clinics of special interest to the general practitioner and to the specialist are included in the program.

The University cordially invites you to be present.

SOCIETY PROCEEDINGS

Bremer County Medical Society

The Bremer County Medical Society met at the Mercy Hospital, Waverly, October 16, 1923. The hospital management served a splendid turkey dinner. All members of the society were present and a number of guests from Butler county. After the dinner Dr. C. H. Graening of Waverly, read a comprehensive paper on diabetes and insulin. Dr. L. C. Kern, as delegate to our State Society, gave a very complete and interesting report of the State Society meeting after which it was moved that a committee be appointed on resolutions relative to the report and their attitude toward the State Society and its various committees working for the betterment of the medical profession in Iowa.

The following resolutions were presented.

Resolved: That the Bremer County Medical Society, as a whole and as individuals, are in hearty accord and sympathy with the progressive committees of the State Medical Society.

Resolved: That we heartily endorse the raising of the annual dues to \$10 in order to allow the State Society committees to more effectively do their work.

Resolved: That the Bremer County Medical Society, as a society and as individuals will do their bit to assist any of the committees of the State Society and to assist them at any time when called upon.

Resolved: That the Bremer County Medical Society appreciated all the work done by the State Society and expressing its gratitude, in particular to the committee that helped to put over the passing of the appropriation that made the acceptance of the Rockefeller Foundation's liberal assistance to the State Medical School a possibility.

Signed:

W. A. Rohlf, M.D.,
F. J. Epeneter, M.D.,
Committee.

The resolutions were unanimously adopted.

The following officers were elected for the ensuing year: President, Dr. F. R. Sparks, Waverly; vice-president, Dr. R. E. Robinson, Waverly; secretary-treasurer, Dr. L. D. Jay, Plainfield; delegate to the 1924 State Society meeting, Dr. L. C. Kern, Waverly; alternate to the 1924 State Society meeting, Dr. F. R. Sparks, Waverly.

M. N. Gernsey, President,
F. J. Epeneter, Sec'y-Treas.

Buena Vista County Medical Association

At a recent meeting of the Buena Vista County Medical Association the following officers were elected for the ensuing year: President, Dr. John W. Morrison of Alta; vice-president, Dr. J. H. Dellahunt of Marathon; secretary and treasurer, Dr. E. F. Smith of Storm Lake; state delegate, Dr. F. C. Foley of Newell; alternate to state convention, Dr. Kelley of Marathon; legal delegate, Dr. J. H. O'Donoghue, Storm Lake; censors, Dr. M. A. Armstrong and Dr. F. C. Foley of Newell and Dr. Herron of Alta.

The organization of the five county associations which was mentioned in the Pilot-Tribune recently, will be perfected at a meeting at the Bradford Hotel January 19.

Cerro Gordo County Medical Society

The Cerro Gordo County Medical Society met at St. Joseph's Mercy Hospital, Mason City, as the guests of the hospital staff, December 4, 1923.

The program consisted of a paper on Brain Tumor, by Dr. S. A. O'Brien and a presentation of brain tumor cases by Dr. F. G. Carlson. Dr. M. J. Fitzpatrick presented a paper on The Anatomy and Pathology of Appendicitis, with a discussion of unusual clinical cases by Dr. T. A. Burke.

Dr. B. Raymond of Weston, presented a paper on Diseases of the Pancreas, with case reports.

The meeting closed with supper served by the Hospital Sisters.

Cerro Gordo County Medical Society

Senator J. E. Wichman of Garner and Representative Clarence Knutson of Clear Lake were guests of the Cerro Gordo County Medical Association at a 6:30 o'clock dinner given in the private dining room of the Hotel Hanford, Mason City, December 26.

The dinner was given as the closing meeting of the activities of the association for 1923, and Dr. A. B. Phillips, president during the past year, presided.

Dr. C. E. Dakin discussed and explained the proposed new code bill which will be presented to the legislature some time during the present session. Senator Wichman and Mr. Knutson both were called upon for short talks, and responded, as did Dr. A. J. Cole of Clear Lake.

After the proposed bill had been discussed, the two legislators were called upon to answer many questions with regard to legislative procedure and also

concerning the bill and its sponsors, which they answered as fully as they could.

A. B. Phillips, M.D.

Clinton County Medical Society

The regular meeting of the Clinton County Medical Society was held on December 13, at the Lafayette Hotel, Clinton; served to over fifty members and guests.

The program included: Dr. George Coleman, Rush Medical College of Chicago. Subject—Significance of Pleural and Peritoneal Pain. Dr. Edward Miller, Rush Medical College of Chicago. Late Ulnar Nerve Palsy. Dr. Harry Mock, St. Luke's Hospital, Chicago, Reconstructive Surgery.

It was a very interesting and instructive program and was attended by physicians from Moline, Rock Island, Sterling, Illinois, Davenport and other cities.

J. C. Langan.

Clinton County Medical Society

The Clinton County Medical Society met on December 21, at the Lafayette Hotel, Clinton, for the transaction of business and the following officers were elected: J. C. Langan, president; W. M. Walliker, vice-president; H. R. Sugg, secretary-treasurer; M. S. Jordan, censor; delegate to the state convention, J. C. Langan; alternate, E. P. Weih.

J. C. Langan.

Des Moines County Medical Society

About seventy physicians and surgeons attended the annual meeting of the Des Moines County Medical Society at the Hotel Burlington December 11.

The sessions opened at 4 o'clock with routine business after which Dr. Charles Hugh Neilson of St. Louis read a paper on some points in diagnosis. After the dinner at 6:30 o'clock. Dr. Werne C. Hunt of the Mayo Clinic at Rochester, Minnesota, gave a demonstration by stereopticon of a certain operation for the removal of the prostate gland, and Dr. Millard F. Arbuckle of St. Louis, demonstrated the use of illumination of the esophagus and lower air passages in the lungs in their examination by the physician.

A number of physicians from surrounding counties were present at all sessions of the society and at the dinner, including Drs. Payne and Gardner of Mt. Pleasant and Drs. H. A. Gray, F. M. Fuller, R. M. Lapsley, E. G. Wollenweber and F. Blinn Dorsey, of Keokuk, with others from Muscatine, Galesburg, Monmouth, Fairfield and Wapello.

The Lee County Medical Society sent an invitation to the Des Moines County Society to attend its meeting at Ft. Madison.

The officers of the Des Moines County Medical Society are: Dr. J. S. Cooper, president; Dr. George J. Pearson, vice-president; Dr. George H. Steinle, secretary-treasurer, and they were all re-elected.

Dubuque County Medical Society

Dr. Howard E. Thompson was elected president of the Dubuque County Medical Society at the annual meeting and banquet of the physicians of the county. Other officers named by the physicians were: Vice-president, Dr. Leo A. Goodman; treasurer, Dr. J. H. Schrup; secretary, Dr. A. J. St. Germain. At this meeting the Dubuque County Medical Society, in common with other medical organizations of America, voted to extend practical aid, in the way of financial contributions, to members of their profession in Germany. This action by the Dubuque physicians and members of their profession in all parts of the country came as a result of an appeal to the American medical profession on behalf of the German medical men which, like the other professions in Germany, is suffering from the chaotic economic conditions.

Authentic accounts are at hand, the physicians state, indicating dire distress among most of the medical profession in Germany, particularly the teachers of the profession and those members who are too old to do manual work.

In giving their aid to the German physicians, the Dubuque county physicians were actuated by their sense of obligation for the splendid contributions to medicine in the past by the German medical profession and also by the courtesy shown to visiting American physicians during the period of German prosperity.

Fayette County Medical Society

The following meeting of the Fayette County Medical Society was held at Maynard, December 18, 1923, at which time the society were entertained to a 6:30 dinner by Drs. Hall & Hall of Maynard. After the dinner the society held their program which consisted of a paper by Dr. Randall, department of obstetrics, University of Iowa, Puerperal Sepsis and Its Conservative Treatment, illustrated. Paper, Syphilis in Fayette County, Dr. G. N. Wassom, Oelwein.

Case report, Dr. Rozene, department of obstetrics, University of Iowa, Premature Separation of the Placenta.

C. C. Hall, Sec'y.

Henry County Medical Society

The Henry County Medical Society met at the Memorial Hospital, Mt. Pleasant, December 13, 1923.

Dr. G. E. Smith called the meeting to order and the following officers were elected: President, Dr. J. W. Laird; vice-president, Dr. E. J. Lessenger; secretary and treasurer, Dr. E. E. Stewart.

After the business meeting a discussion was held in regard to the care of the poor of the county and the following committee was appointed to serve in this capacity: Mt. Pleasant, Dr. W. A. Sternberg and Dr. J. W. Laird; New London, Dr. E. J. Lessenger; Winfield, Dr. J. T. McConahey; Wayland, Dr. Allen; Salem, Dr. Dilts; Hillsboro, Dr. Howe.

Johnson County Medical Society

At the meeting of the Johnson County Medical Society, held December 12, 1923, at Iowa City, the following officers were elected for the ensuing year: President, Dr. Geo. C. Albright; vice-president, Dr. H. R. Jenkinson; secretary and treasurer, Dr. W. E. Gatewood; delegate, Dr. H. J. Prentiss. The scientific program presented was a motion picture, *The Management of Labor*, by Dr. F. H. Falls, head of the department of Gynecology and Obstetrics of the State University of Iowa. Plans for meeting for the coming year were discussed informally.

Geo. C. Albright.

Jones County Medical Association

The members of the Jones County Medical Association met at the home of the president, Dr. Fred B. Sigworth. The following program was given: Syrum Therapy, Dr. J. D. Paul. Practical points in Cystocopy, Dr. H. F. Dolan. Valvular Heart Disease, Dr. Stuky; Enuresis, Dr. T. M. Redmond.

At the close of the business meeting, which followed the program, Mrs. Sigworth served an oyster supper.

Marshall County Medical Association

Dr. Edwin Cobb was elected president of the Marshall County Medical Association at a meeting at the Y. M. C. A. Thursday night, December 6. Dr. A. D. Wood of State Center, was chosen vice-president and Dr. L. H. Launder was elected secretary and treasurer. Dr. Wood was elected delegate to the state convention and Dr. Cobb alternate.

Dr. Howard of Omaha, spoke on Medical Biliary Drainage, and using charts showed the methods used to drain the gall-bladder without making an incision.

Mills County Medical Association

The Mills County Medical Association met Thursday, December 6, 1923, in Glenwood in the council room at the Armory. At this meeting two new members were admitted to membership, Dr. Yates of Henderson and Dr. Hartje of Mineola. Officers elected were: Dr. J. G. McCue of Silver City, president; Dr. G. V. Caughlan of Glenwood, vice-president; Dr. Malcom Campbell of Malvern, secretary and treasurer. The last named was a re-election.

Page County Medical Society

Thursday afternoon, December 6, at the State Hospital a meeting was held of the Page County Medical Society, Dr. F. E. Sampson from Creston being present to give an address. Preventive treatment was urged by him in the medical profession, keeping people healthy and not letting them become sick as far as possible.

Dr. J. F. Benning of Yorktown was elected president of the society for another year, Dr. J. F. Aldrich of Shenadoah being re-elected secretary.

A campaign will be conducted in which the W. C. T. U., the local medical society and Farm Bureau will

co-operate with the department of Maternity and Infant Hygiene of the Iowa State University. A clinic will be conducted in every township in the county between February 18 and March 1, Dr. E. H. Laner of Iowa City will be superintendent in charge.

Plymouth County Medical Society

The annual meeting of the Plymouth County Medical Society was held on Wednesday, December 10 at the offices of the Le Mars Clinic. There was a fair attendance at the meeting. Physicians from Akron started for Le Mars but backed out on account of rain, which began to fall and the threatening aspect of the weather.

Papers were read by Dr. A. C. McPhaden on Hemorrhage into the Spinal Column, and by Dr. W. W. Larson on High Voltage in X-Ray Therapy. The papers were discussed at the meeting and also other matters of interest to the profession.

Officers for the ensuing year were elected as follows: W. L. Downing, president; J. E. McGovern, Remsen, vice-president; M. J. Joynt, secretary and treasurer.

W. L. Downing was elected delegate to the state medical convention, to be held at Des Moines in May and A. H. Jastram of Remsen was chosen alternate.

Poweshiek County Medical Society

The Poweshiek County Medical Society held their regular meeting Tuesday evening, December 5, in the offices of Dr. O. F. Parish. Dr. C. D. Busby submitted a paper on Physical Examination of Public School Children. Another paper by Dr. Delmar Wilcox of Gilman on Prevalence and Control of Contagious Diseases, was read. Following a discussion on the papers, a business meeting was held, and a light lunch was served. About nineteen doctors of Poweshiek county enjoyed the session.

Wright County Medical Association

The meeting for the election of officers of the Wright County Medical Association was held in the city library in Clarion, December 10. The officers for the ensuing year are: G. E. Schnug, Dows, president; F. S. Stevens, Belmond, vice-president; O. A. Kellogg, Dows, secretary and treasurer. This society has an auxiliary association known as the Wright County Credit Association, Inc. Dr. Tompkins was elected president and Dr. Walker secretary. The medical society voted to support the ladies of the farm bureau in their clinics to be held during the early part of January. The meeting closed with a six o'clock dinner at the hotel.

Iowa Clinical Medical Society

At the Iowa City meeting, November 17, the following officers were elected: President, Dr. William H. Rendelman, Davenport; vice-president, Dr. Judd C. Shellito, Independence; secretary-treasurer, Dr. Russell C. Doolittle, Des Moines.

INTERNATIONAL SOCIETY OF THE HISTORY OF MEDICINE

At a meeting of the permanent committee of the International Society of the History of Medicine, held at Antwerp on April 11, 1923, it was voted to hold the Fourth International Congress of the History of Medicine at Geneva, Switzerland, during the third week of July, 1925. The following officers were elected: Dr. Charles Greene Cumston, Geneva, president; Dr. A. de Peyer, Geneva, secretary-general; Sir D'Arcy Power, London, honorary president; Dr. Edward B. Krumbhaar, Philadelphia, honorary vice-president, and others.

PERSONAL MENTION

Dr. A. W. Erskine of Cedar Rapids was made president-elect of the Radiological Society of North America at its annual session at Rochester, Minnesota.

Prof. A. Biedel of University of Prague was the guest of Dr. Karl Werndorff of the Ft. Dodge Clinic. The professor and Dr. Werndorff attended university together at Vienna before the former left for Prague, where he became a member of the faculty in one of the most famous universities in Europe. During his stay in the middle west Professor Biedel will address several medical societies. He will speak before the members of the Douglas County Medical Society at the University Club, Omaha.

HOSPITAL NOTES

Dr. C. J. Saunders was reelected president of the staff of Mercy Hospital at the annual meeting and banquet held at the hospital Monday evening. The twenty-seven members of the staff were present and following the dinner the election took place. Heads of departments will not be chosen until the January meeting. A paper by Dr. Roy Gittens, eye, ear and nose specialist, Sioux City, was much appreciated by the members of the staff. A musical program consisting of ensemble and vocal numbers by the American Academy of Music was enjoyed.

Members of the staff are: Drs. Robert Evans, W. W. Bowen, E. M. Kersten, A. E. Acher, W. F. Carver, George Gibson, Sumner B. Chase, C. G. Field, C. J. Saunders, E. F. Beeh, W. R. Bates, C. J. Dorsey, E. R. Earwood, J. M. Garrett, C. C. Gaard, S. D. Jones, Edward Morrison, A. H. McCreight, G. B. Palmer, J. F. Studebaker, E. D. Russell, A. A. Schultz, Adolph Thoms, Carrie Wakeman, J. D. Lowry, W. R. Turner and C. H. Mulroney.

Dr. Anna St. Clair Creighton of Halifax, N. S., has begun her duties in the x-ray department of Finley Hospital, as an assistant of Dr. G. L. Carr, director. Doctor Creighton is a graduate of Dalhousie University Medical School of Halifax. After graduation she

was associated with St. John's (N. B.) General Hospital and with the Children's Hospital of Halifax.

MARRIAGES

Dr. John H. Butt of Waterloo and Miss Margaret I. Black, also of Waterloo, were married on November 28, 1923.

Dr. O. Evald Olson of Red Oak and Miss Esther Anderson of Clifton, Kansas, were married at Morganville, Kansas, November 22, 1923.

OBITUARY

Dr. Horace A. Kinnaman, who died Wednesday, December 5, 1923, at 3:20 p. m., at his home, Keokuk, following an illness of about two years, was born in Trumbull county, Ohio, on October 17, 1847, and until the age of fifteen lived at Ashland, Ohio. For several years he worked under his brother as a telegraph operator and came to Keokuk in 1868, where he held the positions of trainmaster and chief train despatcher of the K. D. and M. Railroad Company. He worked at night and studied medicine during the daytime for a number of years, first reading medicine in Dr. Carpenter's office, and then attending and graduating from the College of Physicians and Surgeons at Keokuk in 1882. Dr. Kinnaman took a post-graduate course and graduated from the Jefferson Medical College at Philadelphia in 1884.

On November 4, 1868, he was united in marriage to Miss Clara Orr, daughter of Dr. and Mrs. W. L. Orr, of Ottumwa, Iowa. Dr. Orr was one of the first physicians in Ottumwa. Dr. and Mrs. Kinnaman came to Keokuk immediately after their marriage and have made their home here since that time. Two children were born to this union, one daughter, Blanche, dying at the age of five years. Dr. Clarence H. Kinnaman of Topeka, Kansas, survives his father.

Dr. Kinnaman practiced medicine here since 1889; was on the staff of the old Keokuk Medical College, was county physician and physician for the Burlington route for a number of years. He was a member of the Elks Lodge and of the Eagle Lodge of Masons.

BOOK REVIEWS

INTRODUCTION OF MEDICAL BIOMETRY AND VITAL STATISTICS

By Raymond Pearl, Ph.D., Professor of Biometry and Vital Statistics, Johns Hopkins University; Octavo of 379 Pages, Illustrated. W. B. Saunders Company, Price \$5.00 Net.

The purpose of this book is to bring to the mind of the medical scientist the importance of the use of mathematical calculations in arranging medical statistics. It is our habit mainly in preparing the statistics of our cases to employ qualitative methods in-

stead of quantitative methods, that is, we consider our own experience and observations instead of taking into account conditions, environment, age, sex, conditions of disease, etc. In a discussion of a paper on gall-bladder disease, a writer insisted that the gall-bladder should be drained, unless the gall-bladder was not so diseased as to be hopeless, it should be saved. Another in discussion insisted that the organ should always be removed, and based his conclusions on his own experience and observations, employing the qualitative phase instead of the quantitative or biochemic method. It is quite evident that individual statistics based on individual observations without calculating all possible conditions, are of little value. One of the most valuable facts in relation to the Mayo Clinic statistics is the quantitative or biometric method used. Much time and work has been expended and many mathematical calculations used. Dr. Mayo, from early days, insisted strenuously on making their statistics valuable by painstaking care, including quantitatively, all the facts surrounding the different classes of cases.

Statistical study is not a very attractive subject and many unkind things have been said about them, and, as they are generally gathered with much reason, it is largely due to the employment of the qualitative method that makes these criticisms true. It is believed that the full case histories recommended for hospitals will, in time, when everything concerning patients have been written down and then when they are collected and examined by expert biostatisticians, they will become valuable in many medical matters.

Dr. Pearl has written a valuable and suggestive book on medical biometry, giving an outline of the work of Dr. Farr, Sir Francis Galton, Karl Pearson and others, also an argument in support of biometric methods, rates and ratios, life tables, etc.

REPORT OF THE IOWA WORKMEN'S COMPENSATION SERVICE

For the Biennial Period Ending June 30, 1922. A. B. Funk, Industrial Commissioner.
Published by the State of Iowa, Des Moines, Iowa.

The report of the Iowa Workmen's Commissioner is of sufficient interest to the medical profession to engage our attention. The question of medical service is fundamental. It is of the first importance that the injured workman shall receive prompt medical attention of the most efficient character. There is a general impression among the laboring classes that the first available doctor should be called, often regardless of skill or ability. No argument is needed in support of the most skillful treatment in the case of a seriously injured workman, in the interest of prompt recovery and the minimum permanent disability. To secure skillful treatment, reasonable compensation should be provided.

The conditions of efficient surgical treatment are not yet fully understood by the public, but it may be

assured that Commissioner Funk is alive to the importance of proper treatment. Among the recommendations to the legislature, is the extension of medical services to \$200, within the discretion of the industrial commissioner, without limitation to the time or requirement, as to previous application for any portion of the same. The statute now affords relief to the amount of \$200, but with limitations as to time and notice, and often works hardship, for, without early notice, the allowance is limited to \$100 for surgical, hospital and nurse service. As a matter of fact, even the \$200 limitation is not sufficient to secure the treatment sometimes needed and the commissioner should be given more discretion in regard to fees. At the special session of the legislature, surgeons doing industrial work should assist Commissioner Funk in securing more liberal legislation in the interest of injured employe as well as employer, whose interests lie in securing the most complete recovery in the shortest time, not by securing a Doc, but a Doctor, who may not be willing to assume the risk of attending a seriously injured employe without adequate compensation.

There are several other recommendations in the commissioner's report relating chiefly to the administration of the law, which are of material importance. The principal one so far as the medical profession is concerned, is the covering of occupational diseases. Under the present statute, "injury and personal injury shall not include a disease except as it shall result from the injury." In the opinion of the commissioner, "that where disability arises from noxious gases, or from contact from poisonous elements, and where such exposure or contact may be focalized into definite, brief periods, legal obligation is created."

Commissioner Funk calls attention to the fact, that there was an experimental feature in the passage of the compensation act that left many imperfections, which have come to light, and as no amendments have been adopted in four years, it is time that the law should be revised to bring it up to our present knowledge and experience, at the coming session, and inasmuch as there are important features concerning medical service, we should not be indifferent to the action of the legislature at the special session.

ABT'S PEDIATRICS

By 150 specialists, edited by Isaac Abt, M.D., Professor of Diseases of Children, Northwestern University Medical School, Chicago. In 8 Octavo Volumes, Totaling 8000 Pages, with 1500 Illustrations and Separate Desk Index Volume Free. Now Ready—Vol. I, Containing 1240 Pages, with 284 Illustrations. Vol. II, Containing 1025 Pages, with 180 Illustrations. W. B. Saunders Company, 1923, Cloth, \$10.00 Per Volume.

This great work will mark an era in pediatric medicine. A group of eminent specialists began nearly ten years ago to gather material for a monumental

work on pediatrics, partly interrupted by the war, but renewed on the advent of peace with new vigor.

The two volumes before us constitute the first installment. The reviewer with the immense material before him will be able only to present to the reader the main features of the work. The fact that first presents itself is the care with which the material is arranged, the printing, the illustrations, and the fine English in which the papers are written.

Considering Volume One, Professor Abt presents a chapter on Encyclopedic references to the children's diseases, followed by a History of Pediatrics by Lieut.-Col. Fielding H. Garrison, the distinguished medical historian, illustrated by pictures of the men whose works mark the advance of pediatrics, from Robert Whytt, 1714-66, to Sir Arthur Newsholm. Dr. Garrison takes up the study of the activities for children of different centuries from the earliest historic times. This historic outline is extremely interesting.

The second chapter relates to Congenital and Acquired Predisposition and Heredity, by Clarence C. Little of Cold Springs Harbor, New York. This chapter is fundamental in the study of transmission, predisposition and heredity in relation to diseases of children. Richard E. Scammon, Ph.D., of Minneapolis, devotes 187 pages to a summary of the Anatomy of the Infant and Child, and T. Brailsford Robertson, Ph.D., D.Sc., of Adelaide, South Australia, Growth and Development. John C. Murlin, Ph.D., Sc.D., Rochester, New York, The Physiology of Metabolism in Infancy and Childhood. Jesse F. McClendon, Ph.D., Minneapolis, The Application of Physical Chemistry to the Physiology of Childhood.

These five chapters of 688 pages constitute the fundamental basis of the study of diseases of childhood and lays the foundation for a clinical understanding of the subject before us in the diagnosis and treatment of diseases of infants and children.

Beginning with chapter seven, we have questions of hygiene. Dr. Walter Reeve Ramsey, St. Paul, Hygiene of the Home. Dr. Josephine E. Young, Chicago, Hygiene of the School Age. Hygiene of Infants in General, by Dr. Walter Reeve Ramsey, St. Paul. Climatology, Dr. F. L. Wakehan, New York, and the Hygiene of Crippled Children, by Dr. H. Winnett Orr, Lincoln, Nebraska.

The last five chapters are exhaustive studies of the subjects indicated.

Having laid the foundation for the study of particular diseases of children, we come to Volume Two. First, Mortalities of Infancy, by Dr. Richard Arthur Bold, Baltimore. This is a descriptive and statistical consideration of mortality of the various diseases of childhood, followed by a chapter on History Taking and Physical Examination of Infants and Children by Dr. Mark Jampolis of Chicago.

Roentgenology in Pediatrics is prepared by Dr. Frederick C. Rodda, Minneapolis, and is illustrated by numerous x-ray examinations. Dr. John Diven of Philadelphia, presents an interesting and instructive chapter on the Peculiarities of Diseases of Child-

hood, and Dr. L. R. DeBuys of New Orleans on Prophylaxis and Treatment. This is a particularly interesting discussion. Dr. Henry Dietrich of Los Angeles, a chapter on Heliotherapy. Diseases of the New Born by Dr. N. O. Pearce of Minneapolis, and Premature Infants by Dr. Julius H. Hess of Chicago, are treated in chapters nineteen and twenty.

Chemistry and Biology of Milk and Breast Feeding and Nutrition, are presented by Dr. Paul G. Heineman of Chicago, Dr. Julius P. Sedgwick of Minneapolis and Dr. Wyman C. C. Cole of Detroit. These chapters, twenty-one and twenty-two, are extremely important. Also Artificial Feeding of Infants, by Dr. Joseph Brennemann of Chicago, chapter twenty-three. Considerable space is given to these nutritional subjects because of their fundamental importance in the management of infants.

We now come to the consideration of diseases of children. Diabetes Insipidus by Dr. Solomon Strouse of Chicago; Seasickness Dr. William J. Corcoran, Chicago; Beriberi, Lieut.-Col. Edward B. Vedder, U. S. Army; Acidosis by Dr. John Howland, Baltimore and W. McKim Marriott, St. Louis; Obesity, Dr. T. C. Hempelmann, St. Louis; Infantile Scurvy (Barlow's Disease), Dr. Alfred F. Hess, New York. Pellagra, Dr. J. Ross Snyder, Birmingham; Rickets, Dr. Alfred F. Hess, New York. The Constitutional Diatheses of Childhood by Dr. Frederick W. Schultz, Minneapolis.

The importance of this work leads us to outline in considerable minuteness the arrangement of the several chapters so as to give as clear an idea as possible of the logical make-up of the two volumes thus far published. Much may be said in commendation of the apparent cooperation of the publishers.

THE MEDICAL CLINICS OF NORTH AMERICA

The Mayo Clinic Number, July, 1923. W. B. Saunders Company, Price, Paper \$12.00, Cloth, \$16.00 Per Annum.

The first fifty-six pages are devoted to Insulin, under different heads. Insulin itself, standardization and dosage, training of patient and other important preliminary facts, Dr. Russell M. Wilder. Food Mixtures Suitable for Diabetic Patients Receiving Insulin and a Method for Calculating Diets, Dr. S. Franklin Adams. Use of Insulin in Treatment of Diabetes, Dr. Clifford J. Barboka. Preliminary Report on the Effect of Insulin on the Rate of Heat Production and Its Significance in regard to the Calorigenic Action of Adrenalin, Drs. Walter M. Boothby and Russell M. Wilder.

This presents an outline of the whole subject of treatment of diabetes by Insulin.

Another group of subjects relates to the stomach and intestines followed by a group of studies in Chronic Ulcerative Colitis. Another important group relates to the urinary system. We would particularly like to call attention to a paper on enuresis in children by Dr. Samuel Amberg. We were not

able to find mention of a remedy that will cure enuresis, but there are useful suggestions as to the physiology of micturition, which will be useful in managing a case.

Dr. Leonard G. Rowntree presents a paper on the treatment of Chronic Addison's disease. A rather exhaustive paper on the Heart in Exophthalmic Goitre and Adenoma with Hyperthyroidism is presented by Dr. Frederick A. Willins and Dr. Walter M. Boothby. Dr. Henry H. Bowing points out the advantages of Radium and Roentgen Ray Treatment of Chronic Lymphatic Myelocytic Leukemia. This is a particularly interesting and valuable number.

GYNECOLOGY

By William P. Graves, M.D., Professor of Gynecology at Harvard Medical School. Third Edition; Thoroughly Revised; Octavo Volume of 936 Pages; 388 Half Tone and Pen Engravings and 146 Microscopic Drawings, 103 of the Illustrations in Colors. W. B. Saunders Company, 1923; \$9.00 Net.

The first edition of this valuable work appeared in 1916 and at once gained favorable notice and a wide circulation. Two years later a second edition appeared and now we have before us a third edition, which contains fifty pages additional, referring to several subjects, particularly to ovarian tumors, and to perforating hemorrhagic cysts of the ovary.

The mechanical work is exceptionally good. The paper is of fine quality and carries the excellent illustrations in an attractive manner. The improvements in this edition will add to the value of the work and increase its popularity among workers in the field of medicine.

TEXT-BOOK OF THERAPEUTICS, INCLUDING THE ESSENTIALS OF PHARMACOLOGY AND MATERIA MEDICA

By A. A. Stevens, M.D., Professor of Applied Therapeutics, University of Pennsylvania, Philadelphia; Sixth Edition, Entirely Re-Set; Octavo of 793 Pages. W. B. Saunders Company, 1923. Cloth, \$6.25.

So many changes are being made in pharmacology and applied therapeutics that new editions of books of this character must necessarily follow each other in rapid succession. Therapeutics is not a lost art, but an exceedingly important subject. Nihilism in medicine is rapidly disappearing and now we are returning to our faith in drug treatment judiciously and scientifically employed. The old time indiscriminate and empirical administration of drugs has disappeared. It is undoubtedly true that many physicians prescribe in the old way without much regard to the therapeutic action or value of drugs, and the more to be regretted, rely on the statements of proprietary medicine houses for compounds more or less secret, which make the practice of medicine easy. We had hoped that this practice was dying out, but we meet with many disappointments.

We have before us a book of such a character as to reduce to the minimum practices we have above referred to, and the placing of as many copies as possible in the hands of the general practitioner will be a great gain to scientific medicine.

After some general considerations on the preparation of drugs, the author takes up the consideration of individual drugs, which are classified according to their action, as for instance, circulatory stimulants, circulatory depressants, and so on. Under each individual drug are to be found prescriptions written out containing compatible agents. Thus, after the physician has determined what the condition of the patient demands, and he selects the appropriate medicine, he may find a form of prescription that has a definite, scientific relation to the malady from which his patient suffers. This is much better than to select a proprietary mixture which the distributing agent has advised, and as time goes on, the practitioner will find himself able to formulate his prescriptions without reference to the book.

Following the section relating to drugs comes a consideration of other measures of treatment, as electricity, massage, movement therapy, Neuheim treatment, cold and heat, hypodermoclysis and infusion, blood-letting, radium, etc.

The third section takes up Applied Therapeutics and considers briefly the more common forms of disease and the proper therapeutic application recognized by experience. Again comes forms of prescriptions applicable to the disease. This is not a book to make the practice of medicine easy, but to encourage the application of scientific methods of treatment. Prescription writing is always difficult and has no doubt been responsible for the ready-made preparations so extensively used, but there is no need of continuing this practice, for, with a little industry, and a helpful reference to this book, the practitioner may have the satisfaction of engaging his own personality in the treatment of his cases.

EXCURSIONS INTO SURGICAL SUBJECTS

By John B. Deaver, M.D., Emeritus Professor of Surgery, University of Pennsylvania; Surgeon-in-Chief Lankenau Hospital, Philadelphia, and Stanley P. Rieman, M.D., Assistant Professor of Experimental Pathology, University of Pennsylvania; Chief of Department of Pathology and Bacteriology, Lankenau Hospital, Philadelphia. Octavo Volume of 188 Pages and 30 Illustrations. W. B. Saunders Company, 1923. Cloth, \$4.50 Net.

Dr. Deaver in July, 1922, delivered an Extension Course of Lectures at Washington University, Seattle, Washington, for graduate physicians. The course consisted of eight lectures, including a group of subjects upon which he is regarded as an authority. Much of the material presented has appeared at various times and in scattered publications, but we have now arranged, in Dr. Deaver's best form, the

valuable matter upon which he has devoted a life time in weighing and evaluating, with a degree of skill and energy and independence characteristic of the man. This course of lectures will remain for a generation at least, a classic on the subjects treated.

The first lecture is devoted to the subject of Peptic Ulcer. The term is defined and the condition explained. Referring to the earlier literature and following along from opinion to opinion with a critical analysis of views expressed by different writers, evaluating from the standpoint of his own vast experience and observation.

The second lecture relates to Jaundice. As jaundice is a symptom, we are brought to the consideration of several important subjects, including two large groups of disorders. One, infectious disorders, and the other, hemolytic jaundice, represented by pernicious anemias. These conditions are considered in considerable detail.

Following comes Diseases of the Bile Passages which are considered under four groups. First, typical biliary colic group. Second, a group which do not have attacks of acute biliary colic. Third, gastric group. Fourth, the biliary gastric.

In his fourth lecture Dr. Deaver presents Trials, Tribulations, and Joys of a Surgeon, a subject we all know something about, but we like to hear what Dr. Deaver has to say, as it will come from a man of courage and of high ideals.

Some Surgical Conditions of the Intestinal Tract. Several important subjects are considered, particularly in relation to the appendix, malignancy and tuberculosis.

Included in this book is: The Contribution of Pasteur to Modern Surgery, delivered at the Pasteur Centenary Celebration, Philadelphia, December 27, 1923.

Medical Education and Educators. Dr. Deaver's long experience as a professor gives him license to assume the part of a constructive critic.

The final lecture on Living Pathology is suggestive and full of interest.

The progressive men of our profession should feel under a debt of gratitude to Dr. Deaver for this presentation in book form of a group of lectures under the impressive title of Excursions into Surgical Subjects.

EXERCISES FOR HEALTH AND CORRECTION

By Frank D. Dickson, M.D., and Rex L. Diverly, M.D., 112 Illustrations; 127 Pages.
J. B. Lippincott Company, Philadelphia and London. Price \$2.

We are coming more and more to recognize the importance of physical exercise in developing our young people and in remedying deformities.

This book has been prepared for those who wish a scientific, progressive series of exercises which may be applied effectively for health and correction. It can be used as a complete course, or selections may be made to suit particular cases.

This manual is of the greatest value to physical directors, doctors, nurses and the general public. Those who wish to correct in themselves faults of bodily health, will find it a useful guide. The numerous illustrations show practically every movement of every exercise.

THE SURGICAL CLINICS OF NORTH AMERICA

August, 1923, Chicago Number. W. B. Saunders Company, 1923.

There are the usual number of interesting surgical clinics in this issue. A notable clinic is by Dr. Daniel N. Eisendrath on Tumors of the Kidney, and one by Dr. Herman L. Kretschmer on Pyelograph. Dr. David C. Straus presents a clinic on Subphrenic Abscess. Also some kidney cases by Dr. Arthur D. Bevan.

We have selected the kidney cases of this number for special reference, in view of the importance of kidney surgery and for the reason that space forbids further notice.

John T. Milliken & Company, Saint Louis, announces the appointment of Mr. E. F. Gillis as general sales manager with headquarters in the main office. Mr. Gillis was formerly in charge of the Western Sales Division at Denver, Colorado.

A class of seventeen new salesmen, everyone a thoroughly qualified pharmaceutical man, has just completed an intensive sales training course at the plant and started traveling in various territories.

John T. Milliken & Company is one of the largest manufacturers of pharmaceutical products in the country and under the management and personal direction of its president, John D. Gillis, has achieved a remarkable success in recent years.

NEW AND NON-OFFICIAL REMEDIES

In addition to the articles enumerated in our letter of October 27, the following have been accepted:

Abbott Laboratories:

Butesin.

E. Bilhuber, Inc.:

Afenil.

Ampules Afenil.

Cutter Laboratories:

Diphtheria Antitoxin Globulin.

Glycerinated Vaccines Virus.

Gonococcus Vaccine.

Hoffmann-LaRoche Chemical Works:

Iodostarin:

Chocolate Tablets Iodostarin—Roche.

Chocolate Tablets Iodostarin—Roche 0.25 Gm.

Parke, Davis and Co.:

Carbon Tetrachlorid (Human Use)—P. D. and Co.

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No. 3

ORATION IN SURGERY*

ELBERT E. MUNGER, M.D., Spencer

Mr. President, Members of the Iowa State Medical Society, Ladies and Gentlemen:

Those of you who are engaged in the general practice of our high calling, those of you who still have the honor to be called family physicians, can imagine my surprise when I received the invitation to deliver the oration in surgery before this honorable body of servants of the people of this great state. You can sympathize with me when I suggest with what hesitancy the honor was accepted.

It has occurred to me that the relation of surgery to the practice of medicine and of both to the public might be discussed in the interests of all. With this purpose in view I desire to use a text—part of which is found in the official organ of this society for December, 1922, written by Doctor Franklin Martin; part in the official organ of the American Medical Association for January 6, 1923, written by Doctor John M. Dodson; another part will be found in that book with which we all were familiar in the misty long ago, in childhood's happy days, when at our mothers' knee, and before David Harum had popularized the modern version, we learned the golden rule.

Preliminary to this discussion let us review the marvelous development and accomplishments of surgery during the past sixty years, by quoting briefly from the words of that grand old Gladstone of the medical profession, whose volumes of surgical science are at the elbow of surgeons all over the world. Need I mention the name of Doctor W. W. Keen?

Contrasting "surgical conditions during the 60's and 70's, our then means and methods of surgical diagnosis and treatment, the poverty of our knowledge and the meagerness of our resources and your wealth of both in 1922", suggested a "speculation as to what your orator sixty years later may have to tell. I dare not make the at-

tempt," said Dr. Keen; "the actuality would doubtless put my prognostications to shame. Would that I could return in 1982."

"Physiology was in an elementary condition; pathology hardly existed. Crude wood cuts were the best illustrations to be had. The splendid illustrations of today were far away. Clinical surgery was well established in 1860 but it was very crude and simple." Dr. Keen thanked God that in the '60's there was one great boon—anesthesia—and the entire world echoes his thankfulness. There were no ward classes in those pioneer days. Students only looked on at operations. Dr. Keen says that had he not been a private "office student" with Brinton and DaCosta he "should never have palpated, ausculted or percussed a patient's heart, lungs or abdomen. No medical college had a microscope for instruction. There were no laboratories. As late as the 80's and even into the 90's there were, in most hospitals, no trained nurses."

Dr. Keen never saw an ophthalmoscope or laryngoscope until after the Civil War. "The medical use of the thermometer was practically unknown. We judged of fever by placing the hand on arm or neck, but we never estimated it in degrees, only in adjectives as 'none,' 'slight,' 'considerable,' 'high,' or 'very high.'" The first clinical thermometer Dr. Keen ever saw was brought to him from London in 1876 by Weir Mitchell, and he wonders if we can "imagine the mother of half a dozen children today without a thermometer as a guide to whether the doctor should be called!"

"Of the blood our knowledge was most primitive. We knew nothing of leucocytosis in its relation to inflammation."

Dr. Keen stresses "the chief advance in scientific and practical surgery ever made—the development of bacteriology and its application to surgery by the antiseptic method of Lister. Pasteur's work was fundamental. Lister's genius applied Pasteur's discoveries to surgery. Surgical tuberculosis could not be definitely diagnosed in bones, joints, or in what we called 'scrofula,' because we knew not the real cause of tuberculosis until 1882."

*Presented before the Seventy-Second Annual Session, Iowa State Medical Society, Ottumwa, Iowa, May 9, 10, 11, 1923.

The operative surgery of Dr. Keen's surgical youth consisted chiefly of: "(1) Amputations, most of which we can now avoid. (2) Ligation of arteries, especially for aneurism and secondary hemorrhage. (3) Occasional excision of joints—not seldom fatal. (4) Removal of external tumors, such as cancer of the breast. (5) Ovariectomy. But this was not done until the tumor was so large as to imperil life."

"In 1876, in reviewing American surgery for the preceding century, Professor Samuel D. Gross could only quote seven operations for goiter by Greene of Portland, Maine, of whom five recovered and two died, and Maury's two cases, of whom one died, a mortality of respectively 35 and 50 per cent. Of 1834 cases of operation on all varieties of goiter in the Mayo Clinic in 1919, only twelve died, or two-thirds of 1 per cent."

Until 1867, when Bobbs of Indianapolis was the first surgeon to remove gall-stones from the gall-bladder "similar sufferers were left to Mother Nature and she generally slew them in due season."

Dr. Keen relates that in his student days he "often saw couching for cataract, i. e., pushing the opaque lens down into the vitreous, done by Pancoast and Levis, both general surgeons—how horrible that sounds to us today!" What a satisfying retrospect must have been his when he said: "The oncoming flags of ophthalmology and the other several specialties were then just becoming visible above the distant horizon!"

"On the head, the chest and the abdomen was writ large, 'hands off!' And no wonder! Before the days of Lister, death from meningitis, from violent pleurisy or pneumonia, and from virulent peritonitis was almost always the result of any operation in these three cavities. Even the cause was not known till Fitz's epochal paper in 1886 revealed the appendix as the real criminal."

"For preventing hemorrhage we had only the Spanish windlass and Petit's tourniquet—no Esmarch's bandage and elastic tubes. We had no artery forceps, hence primary hemorrhage was profuse." Secondary hemorrhage appears to us as an unbelievable tragedy. "In 2,235 cases during the Civil War 61.7 per cent died."

Absorbable catgut was unknown until introduced by Lister in 1869. There were no modern retractors, the hypodermic syringes and the aspirator were not in general use until the end of the Civil War.

Little wonder that this veteran pioneer should exclaim: "My happy younger surgical colleagues, you cannot imagine the paradise you

have been born into, compared with the purgatory in which we lived for so many years!"

What of surgery today? "External tumors of any size are now removed from all parts of the body without fear of a frequently fatal erysipelas. The mere fact that any tumor is internal—inside the head, chest, abdomen, pelvis—has little influence on the decision whether it should be removed or not. In the head, the new surgery trephines without hesitation.

"In the chest, that very citadel of life, the heart lies in a straight line only one inch from the surface, yet, as Frederick Lee has strikingly said, it took surgery with laggard step, twenty-four centuries to travel that one inch. Now the heart is sutured for stab and gun shot wounds, with a recovery of over 50 per cent. Foreign bodies have been removed from its interior.

"The stomach is opened with impunity for the extraction of foreign bodies, portions of its walls are removed for cancer, for ulcers; even the entire stomach has been removed and at least temporary recovery has followed. As to intestines we have yet to find any condition or injury which prohibits our interference, and nearly always with success, unless the disease has gone too far and the injury is too extensive. We remove even many feet of the bowel successfully," and as evidence Dr. Keen says: "of this, happily, after even eleven years, I am, myself, a surviving, grateful witness."

"In the pelvis, the bladder is opened to remove stones or for tumors and may be partially or wholly removed, in which case the ureters are made to debouche into the bowel. Removal of the prostate gland is almost an every-day operation, for which the aged patients are most grateful for their relief in most cases from intolerable suffering. The uterus, ovaries and the parovaria have a long list of life-saving comfort-giving operations to their credit."

"We are gradually throttling disease at its very birth, and preventing its onslaught upon the health of the world. As a representative of the passing," said Dr. Keen, "and, at my age, I may say the past generation, with uplifted hand I thank Almighty God for the wonderful progress He has enabled our generation to achieve. I crave for you, my younger brothers, His abundant blessing. To you may it be vouchsafed to win still greater victories for humanity."

What an array of superlatively "Superb Americans" have stood shoulder to shoulder in waging this sixty years' battle of medicine and surgery against disease! What an array of superlative Englishmen, Scotchmen, Irishmen, Welchmen, Canadians, and other colonists, Frenchmen, Ger-

mans, Austrians, Scandinavians, Italians, Belgians, Swiss, Hollanders, Turks, Greeks, South Americans, Spaniards, Japanese, Russians, Mexicans, and recently the promising Chinese, have enlisted in this sixty year fight to make the world safe for humanity.

What a heritage, what a responsibility, is ours! "To us may it be vouchsafed to win still greater victories for humanity!"

Not being a preacher, I shall hope to escape the charge of non-conformity if now I refer ad libitum to the text, and let me suggest that, at your leisure, you read the context.

Dr. Franklin Martin, outlining "The Program of the American College of Surgeons" says: "It is a society of five thousand surgeons of the United States and Canada, who have allied themselves in this association for the purpose of improving the service which they are rendering to their patients. It comprises only a part of the one hundred and forty thousand doctors of the continent. It is putting forth every possible effort to make better surgeons of themselves; to aid in providing better training for the specialists in medicine who are called upon to do surgery; to discourage unnecessary surgery by insisting upon a thorough diagnosis before an operation is attempted; to encourage the establishment and maintenance of well-equipped hospitals in which the surgeon will have every facility for determining the ailment of the patient; and in which he can safely operate upon his patients.

"It believes that the best surgery that can be done by the most expert diagnostician, in the safest environment that can be secured, is none too good and that every man, woman and child is entitled to the very best surgery that can be obtained.

"It believes that there is no state in the United States or no province of Canada that cannot furnish the very safest kind of surgery for its citizens if the medical profession and the citizens of the towns and cities of such states and provinces will get together and cooperate in helping each other in this problem.

"It believes that this is a problem that interests laymen and medical men alike, and that the medical men cannot work it out without the sympathy, the aid, and the cooperation of all intelligent citizens.

"The whole medical profession stands for health, strength and the wholesomeness of all the people whom it serves. It stands for its own honor, and for science and it is opposed to quackery in any form.

"The American College of Surgeons believes that every surgeon should prepare himself for his

important work by a thorough education in the science and the art of his specialty; by a laboratory training in the technique of surgery; by an association in actual surgical work with a surgeon of ability and experience; and by a hospital training of at least two years, during which period he should become familiar with diagnostic methods and the pre- and post-operative treatment of surgical patients.

"It believes that a man who is ambitious to become a surgeon or a surgical specialist should learn to do surgery as an apprentice to or as an assistant to an experienced surgeon rather than to learn to do surgery by himself, attempting to operate upon human beings without having at his side an expert surgeon.

"The specialists of surgery who are represented in the American College of Surgeons are eye surgeons; ear, nose and throat surgeons; obstetricians and gynecologists; orthopedic surgeons, and general surgeons—specialists who must be consulted by every citizen one or more times during his lifetime."

"The American College of Surgeons seeks to develop, exemplify and improve the highest traditions of our calling, they pledge themselves, among other things, to regard scrupulously the professional interests of their professional brothers, to render willing help to their colleagues and to give freely of their services to the needy, to shun unwarranted publicity and dishonest money seeking commercialism as disgraceful to the profession."

Was ever a nobler program outlined than this? Could men express in words a more sublime belief than "that the best surgery that can be done by the most expert diagnostician, in the safest environment that can be secured is none too good, and that every man, woman and child is entitled to the very best surgery that can be obtained!"

In the second part of the text Dr. John M. Dodson, discussing "Preventive Medicine and the General Practitioner," said:

"There is a widespread feeling of unrest in the medical profession—a feeling much accentuated by the late war. Many physicians formerly engaged in general practice in small towns and rural communities, on being discharged from the medical service of the army and navy, were unwilling to return to the arduous work and meager returns of rural practice; and complaint comes from many such communities that they are without medical service of any kind.

"There is much complaint of the disproportion between the fees commanded by the specialist and the modest fees of the general practitioner. This

is the excuse sometimes offered for the vicious—indeed, criminal—practice of ‘fee-splitting;’ that is, a commission paid the family physician by the specialist, usually a surgeon, without the knowledge of patient or family, for a case brought to him for operation. The family physician feels keenly the injustice to himself and the frequent harm to the patient which result from the growing custom of patients guessing at the diagnosis of their own symptoms and resorting direct to the specialist of one sort or another, a plan which often results in unnecessary operation and leaves the patient no better, and frequently worse, than before. The widespread activity of pseudo-medical cults, osteopathy, chiropractic, naprapathy, Eddyism and the like, is a constant source of aggravation to the honest, adequately trained physician, and the demand that there shall be one uniform standard of preparation for the practice of the healing art is logical and necessary for the public welfare.

“Specialism, of the right sort, does not take from the general practitioner work which he formerly did, but renders a service which was not possible before, and, properly used and controlled, greatly increases the service that medicine can render the sick.

“The family physician of today is quite as competent as were those of previous generations to perform the minor surgical procedures, such as to remove foreign bodies from the conjunctiva, or wax from the ear, to lance felons or boils, to reduce strangulated hernia or dislocations of joints, to dress the usual fractures, and to meet other surgical emergencies.

“Public health work—community hygiene—cannot flourish without the constant, intelligent support of the medical profession as a whole.

“The family physician can render the greatest service to his clientele by the preventing rather than by the curing of disease.

“In any movement seeking the conservation of the health of the community; the highly trained, scientific medical man is the one indispensable factor. Any movement which seeks to secure his service at a wage which is not commensurate with the highly specialized training, skill and ability which the long, arduous and expensive modern medical education has secured for him, or which attempts to secure this service under conditions, by contract, or otherwise, that are obnoxious to any highly trained expert, must fail to secure the results that are sought. In the long run, that method of administering medical science, either preventive or curative, which best insures an adequate compensation and acceptable conditions of

work to the physician is certain to insure the best returns to the community.

“It must be emphasized at all times and in all places that the medical profession is above all a profession of service to mankind. While, in the interest of the physician, of his family, his fellow physicians and his patients, it is his right and duty to exact a monetary return for his labors that is commensurate with the long, expensive period of preparation which has been required of him and the high degree of skill thus acquired, he makes the most grievous and fatal mistake if he yields to the spirit of commercialism which is abroad, seemingly in more intensive degree than ever before, and makes ‘money-getting’ his dominant thought.”

The relation of the physician and surgeon reminds me of a story, which, paraphrased tells of a family physician who, being conscious of his humble station in life, was somewhat disconcerted by the lofty position attained by his surgical colleague. A mutual friend relieved the embarrassment when he said: “Did you ever stop to think that the same Great God that made the mighty ocean also made the little drop of water; when He made the mighty desert He also made the little grain of sand; when He made the soaring eagle He also made the hovering humming bird? The same Great God that made all these things also made the family physician and likewise He made a daisy.”

There are those who predict the passing of the family physician, and here and there we find a most unique substitute for his services, a possible aid to his passing, the “group practice of medicine.” Does any one think that the medical profession as a body will properly function with its back bone removed? Is it not at least a part truth to say that we come near being “a house divided against itself?”

What is to become of the thousands of fine young men and women in our medical colleges, whose requirements for entrance and graduation need only to be compared with Dr. Keen’s two years in medical college to enable us to appreciate the time, labor and capital invested in their preparation for life’s work, with perhaps nearly one-half of their lives spent in that preparation? Are they to go out into group ridden, clique controlled communities or are they to take their chances in a fair field with no favors? Must they ask the community if, in fact, this scheme is not entirely contrary to public policy?

I think this group practice of medicine need not be taken too seriously and for a very human reason: A short time ago a friend, a very competent dentist with a lucrative practice came into

my office and said: "I'm thinking of leaving; I've a chance to go into a group practice at..... They have a going concern, and the dentist isn't just satisfactory; there is friction. They have offered me his place, but he doesn't know it." I said, "What assurance have you that you will not in turn become *persona non grata* to the group, and a substitute for even you be found. Can you afford to abandon your established practice and assume the risk incidental to the venture, or undertake the task of recasting human nature?" Needless to say the opportunity was declined and other changes have since occurred in the group.

Whatever relation the group and bloc programs may bear to congressional affairs they spell delay for any worth while health program. Nor can the health problem be solved along the lines of "big business." What we need as a profession is solidarity. "In union there is strength."

No profession is larger than the public which it serves, and no physician or surgeon is larger than the profession of medicine and surgery. Wherever there is a great surgeon, and their number is large, there are about him several near great surgeons, waiting for the fortunes of time, some doomed to disappointment; any of them competent to deal in the most scientific manner with whatever surgical problem presents during the chief's absence. I am told the bread and butter problem for some of them, at times, becomes acute. There are many able surgeons, near great, if not conspicuous, in cities throughout the land, who can or have complied with all the requirements of the American College of Surgeons who are handicapped both in development and in service by the activities of a lot of underdone pseudo-surgeons in the surrounding territory.

With time tried and indispensable railroad facilities, with good roads, constantly getting better, and with Lieut. Oakley G. Kelly and John A. MacReady, in an airplane, crossing the continent in less than twenty-seven hours, the proximity of cities to the rural districts becomes such as to justify the belief of the American College of Surgeons "that there is no state in the United States or no province of Canada that cannot furnish the very safest kind of surgery for its citizens if the medical profession and the citizens of the towns and cities of such states and provinces will get together and cooperate in helping each other in this problem."

Few, in truth, are the emergencies that cannot wait for competent surgical help, when the belief just quoted becomes a reality. The emergency business has been considerably overworked. Not so very long ago a country physician of at least average ability, told me that during the pre-

ceding year, he had taken forty-four cases of appendicitis to a surgeon in a nearby city for operation with only two fatalities. You will agree with me, that is some epidemic!

You are familiar with health conditions and medical and surgical service in the rural portion of this country as mapped out in the report of a most complete hospital survey by the American Medical Association two years ago. Of Iowa's ninety-nine counties 43.4 per cent have no hospitals; of 3,027 counties in the United States 1,695 or 56 per cent have no hospitals of any kind. If we remember that many hospitals included in the statistics concern themselves only with the interests of the proprietors and their patients, the number of people without hospital service will be found to be much larger than, at first glance, these amazing percentages indicate.

It is an enormous and intolerable condition when only half the people of this country are safeguarded surgically and medically, while the other half is only half served or served not at all. Such a state of affairs is as unendurable as it is unreasonable and unjust.

Not long ago I happened to be in an Iowa city of some 15,000 population, lunching with a couple of friends—a physician and a surgeon. I inquired "How many hospitals have you?" "One with seventy beds." "What percentage of medical and obstetrical cases do you care for?" "Very few; we aim to keep it filled with surgical cases." Here is food for thought for the field activities committee of this Society.

Just a word here with reference to the intimate contact of physicians and surgeons with the public health. In a recent number of a state official health bulletin², a health commissioner makes this statement: "I believe diagnosis has been very much neglected by many physicians and especially by the older ones in rural practice, and consequently mistakes occur. A health officer can do a great deal in the way of education on the subject of diagnosis, but he must be tactful when he attempts it. You can straighten a crooked tree about as easily as you can get an old or even middle-aged doctor out of a rut if he has allowed himself to fall into it. Do you find a very high per cent of physicians past the age of forty in your district who are well informed on modern medicine?"

Upon what sanitary diet hath this Caesar been fed that he hath grown so full of chest that he can offer such a gratuitous insult to the family physician? When doctors disagree who shall decide? Here and there may be found a careless or indifferent physician, but I venture the assertion their proportionate number is not greater than that of

public health servants. This sort of talk is all too common and gets us nowhere in the forward march of public health. Belittlement begets neither ambition, betterment nor confidence.

May I also refer to the Sheppard-Towner Maternity Act in its relation to obstetric surgery long enough to inquire what the bureau of labor down at Washington, operating through our state department of health, has to offer the mother and infant population of nearly one-half the counties of Iowa?

Now, what is the proposal for providing "the very best surgery that can be obtained for every man, woman and child in this country?" Cannot the minimum standard and the standardization program of the American College of Surgeons be broadened out to include smaller than fifty bed hospitals? Cannot a standard be suggested which will be agreeable to them when called for surgical consultation?

We hear much about the incompetence of the family physician; wherein is he incompetent? May not this erroneous idea spring from the occasional attempt of some to be family physician, general surgeon, obstetrician and eye, ear, nose and throat specialist, and, having a desire to render full service, giving somewhat general and promiscuous attention to the contagious diseases?

How many erroneously diagnosed cases have been referred to surgeons by family physicians? How many badly operated cases have been referred, or have elected to go, to competent surgeons, after previous bad operations by incompetent operators? How many, after neither diagnosis nor intelligent treatment have been referred by and received from osteopaths, chiropractors and their kind?

I refuse to believe, as some people do, that the American College of Surgeons, or any considerable number of its members, seeks at all to control the surgical field for reasons other than those set forth in the text, and which, as I have said on other occasions, are entitled to nothing but praise. We have seen a great many organizations undertaking the solution of the health problem, each from its point of view. Surgeons, physicians, women's clubs, ministers and the press all lend a hand. Suppose we tackle the job of bringing order out of chaos by introducing the oath of Hippocrates and the code or principles of ethics, which served well both the fathers of medicine and society.

For those who would rewrite the code of ethics to accommodate every innovation, I entertain about the same regard I do for those who would rewrite the constitution of the United States to accommodate bolshevism and anarchy, who would

out-judge the judges of the supreme court of the land, or for those who would more liberally translate the Bible and put jazz and the hootchy-koochy and free love on the passport to the hereafter. Suppose now, in working out this program we recall that: "Everyone on entering the profession, and thereby becoming entitled to full professional fellowship, incurs an obligation to uphold its dignity and honor, to exalt its standing and to extend the bounds of its usefulness and that every physician should identify himself with the organized body of his profession as represented in the community in which he resides."

"As good citizens it is the duty of physicians to be very vigilant for the welfare of the community, and to bear their part in sustaining its laws, institutions and burdens; especially should they be ready to cooperate with the proper authorities in the administration and the observance of sanitary laws and regulations, and they should also be ready to give counsel to the public in relation to subjects especially appertaining to their profession, as on questions of sanitary police, public hygiene and legal medicine."

"It is the duty of physicians who are frequent witnesses of the great wrongs committed by charlatans and of the injury to health and even destruction of life caused by the use of their treatment, to enlighten the public on these subjects and to make known the injuries sustained by the unwary from the devices and pretensions of artful imposters."

And now comes Hygeia! A trifle tardy, but nevertheless here, and in a most promising manner undertakes the enlightenment of the public on matters medical. Have you forwarded your subscription?

The whole problem resolves itself into a question of whether Mahomet will come to the mountain or must the mountain be dynamited and transported piecemeal to Mahomet? The answer is easy, "if the medical profession and the citizens of the towns and cities of the states and provinces will get together and cooperate in helping each other."

Recently this Association has created a Field Activities Committee and the report of the results of the strenuous labors of its director Dr. Frank E. Sampson, especially with reference to the building of county or community hospitals, is awaited with interest. It is now thirteen years since the Iowa State Medical Association unanimously adopted the following resolution, introduced by that Nestor of Iowa medicine, a contemporary of Dr. Keen, a physician and surgeon, whose life has been one of devotion to the best

interests of the public and the profession, Dr. Edward Hornibrook:

"Whereas—It has been shown that many communities in Iowa are without hospital facilities of any kind, and in others the supply is inadequate to the needs of their people, and

"Whereas—The Thirty-third General Assembly enacted a law making it possible for any county in the state to establish and maintain public hospitals, and

"Whereas—This law contemplates the ultimate establishment of an adequate supply of hospitals, and

"Whereas—It is a matter of common knowledge that most surgical and many medical cases can be better cared for, much suffering prevented, many lives prolonged and many deaths prevented by timely, scientific hospital treatment, therefore be it

"Resolved—That the Iowa State Medical Society heartily endorses the movement for hospital extension in Iowa, and urges its members to use all honorable means to further the development of a public hospital system with equal rights to all and special privileges to none."

In this connection it is interesting to note that as long ago as December 10, 1908, Dr. Frank Billings, then a member of President Roosevelt's commission on country life, who before and since that time as you all know, has been the staunch defender of the family physician wrote as follows:

"If our people could learn the value of a properly conducted hospital in their midst, they would be glad to support such an institution by proportionate taxation and additionally by voluntary contributions.

"The people are slow to learn that the function of a hospital is not only to care for the sick, but that it also is an educational institution. The latter function is the more important of the two, inasmuch as when properly conducted it is a center of knowledge to the community of how to remain well."

On March 23, 1910, Dr. George H. Simmons, who needs no introduction to a state or county medical society, on being advised of the hearty endorsement of the movement for hospital extension as expressed in resolutions adopted by the Iowa State Federation of Women's Clubs at its Eighth Biennial Convention, wrote as follows:

Mrs. J. W. Cory, Spencer, Iowa.

Dear Madam:—

Your letter of January 27 received.

The County Hospital movement has my hearty approval. I regard the plan of a county hospital in counties where there is no good sized town, and con-

sequently where there would not be a hospital otherwise, as one in the interest of humanity and public health. Modern medicine requires laboratory facilities and arrangements that are practically impossible without a hospital. But most important of all is the fact that modern surgery makes hospital conveniences almost a necessity. Certainly important operations can be done with much more safety and much better in a hospital than in any home. There is no limit to the usefulness of such hospitals in many ways.

The movement is one that deserves the hearty support of the public, and I am very glad that the Iowa Federation of Women's Clubs has given it such support.

In proposing a public hospital system, fashioned somewhat after the public school system, the thought has long been entertained that an adequate supply of equitable hospitals, with equal rights to all and special privileges to none, established with reference to the needs of a number of people sufficiently large to warrant the existence of such an institution, would offer an outlet for talent such as has been referred to, and render a much needed service. Whether it be called a community or county hospital matters little. "A rose would smell as sweet by any other name."

Some discussion has arisen over the idea of hospitals with equal rights to all and special privileges to none. I submit that it is a very great and a very dangerous special privilege to allow surgeons less competent than others available to have the surgical control of a hospital. I also submit that equally competent surgeons should have the unqualified and unhampered right to render their services to patients who request it, in any public hospital.

With private hospitals I am not particularly concerned except to say, that any hospital that is conducted on any other basis than that of the greatest good to the greatest number, must, in the long run, justify its existence in accordance with the first law of nature, which, applied to communities, is their self preservation. About the only exceptions are hospitals maintained or supported by large employers of labor for the benefit of their employes and the hospitals in connection with medical colleges, which must needs have ample hospital facilities for the adequate training of their students in order that they in turn may go out and perform their part in rendering the greatest good to the greatest number. In this connection mention may be made of the munificent gift of the Rockefeller Foundation to the State University of Iowa Medical College and hospital and commendation should not be withheld from the last General Assembly for having accepted the gift by complying with the terms

thereof. That this great state institution, of which we all have reason to be proud, will co-operate in a plan, such as is outlined, to furnish all that scientific medicine and surgery has to offer to all of the people of this state, there is no reason to doubt.

The county hospital should not be thought of primarily or principally as a surgical hospital. One of the functions of the county or community hospital should be along the lines of preventive surgery. Certain it is that if more mothers could have intelligent and adequate hospital care at the time of their confinement gynecology would suffer a considerable loss. No one will deny the advantages of the hospital in cases of childbirth, or its very great service, especially trained nursing, in many diseases requiring medical treatment. Nor will any one deny the advantages to the home itself of removing some of the sick to the hospital.

If a physician is not qualified to better care for the same patient in the hospital than at home, by what right does he minister to his needs anywhere?

We expect to build a county memorial public hospital at Spencer in Clay County, it is likely to have less than fifty beds, but we want it to meet with the approval of the American College of Surgeons and all right thinking physicians, surgeons and laymen. We shall expect every qualified physician and surgeon and every member of the Clay County Medical Society to have the privilege of caring for his patients therein. We want it to have such facilities as will make any of you have an "at-home" feeling, if you should be passing our way, and should happen to have any of the illnesses that are common to the people of Clay county.

In conclusion, shall we work out our own salvation or may we have the proffer of the aid of the American College of Surgeons and the benefit of its high ideals and acknowledged ability and experience? This we very much desire in accordance with the spirit of the latter part of the text and in the hope that—

"When earth's last picture is painted and the tubes
are twisted and dried;
When the oldest colours have faded and the youngest
critic has died;
We shall rest and faith we shall need it—lie down
for an aeon or two;
Till the Master of all good workmen shall put us to
work anew.
And those that were good shall be happy: They
shall sit in a golden chair;
They shall splash at a ten-league canvas with
brushes of comet's hair.

They shall find real saints to draw from—Magdalene, Peter and Paul;

They shall work for an age at a sitting and never be tired at all!

And only the Master shall praise us and only the Master shall blame;

And no one shall work for money and no one shall work for fame.

But each for the joy of the working and each in his separate star,

Shall draw the thing as he sees it for the God of things as they are."

1. The Boston Medical and Surgical Journal, Oct. 26, 1922.
2. Ohio's Health, November-December, 1922, page 177.

DIPHTHERIA—ITS DIAGNOSIS, COMPLICATIONS AND TREATMENT*

LEE FORREST HILL, M.D., Des Moines

In almost no other disease has science provided the physician with such accurate means of diagnosis, and such certain means of cure as in diphtheria. That such a relatively large number of deaths still occurs from this disease is far from complimentary to the skill and intelligence of the medical profession. With such complete understanding of the working of the disease, and with such efficient means for its prevention and cure at our disposal, it would seem hardly too much to expect that diphtheria, in future generations, should be classed with the rarities.

It is my purpose in this paper to review in your minds the essential facts in the diagnosis, complications, and treatment of this disease.

Diphtheria may be defined as an acute contagious disease of bacillary origin characterized by an inflammatory reaction of mild grade and by the formation of a false membrane. Although peripheral and cardiac paralysis are very definite characteristics of the disease, their late appearance has led them to be classified as complications. For convenience, diphtheria may be divided into several clinical types: faucial, laryngeal, anterior nasal, nasal vault, and the rarer types such as cutaneous, oral, ocular, aural, vaginal, wound, esophageal, and pulmonary. It must be remembered, however, that any and all of these types may exist coincidentally, that one type only may be present, and that one type may at any time merge into another type.

In faucial diphtheria the disease presents itself most characteristically. The tonsils and the lymphoid tissue of the pharynx are the sites customarily selected by the organisms. In the absence

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of the tonsils the lymph follicles of the pharyngeal wall are selected. The disease begins as an inflammation of a mild, dull character, and in this stage can be certainly diagnosed only by culture. Further growth of germs results in the production of a false or pseudo-membrane composed of necrotic tissue, bacteria, leucocytes, and a fibrinous exudate. Ordinarily this membrane occurs in one or two patches, either unilateral or bilateral, but follicular types are seen. Characteristically the membrane has a smooth, rounded edge and presents a "laid on" appearance. The inflammation can be seen as a narrow zone of dull redness, an eighth to a quarter of an inch in width, surrounding the membrane. The membrane is grayish white in color, rather tenacious, and usually leaves a bleeding surface when removed. Swelling indicates severity. As the disease progresses, the membrane spreads to the pillars, palate, uvula, and pharyngeal wall. The tonsils, peritonsillar tissues, and palate become edematous, and breathing may be rendered difficult. The membrane may fill the postnasal space, line the nasal cavity, and be seen in the anterior nares. Hoarseness and stridor indicate its spread to the larynx, and death may occur suddenly from oedema of the glottis. Such extension as this may develop in 36-48 hours in the malignant cases or may not reach such heights for 8-12 days. At any stage the patient may develop sufficient antitoxin to arrest the process. The oedema subsides, the membrane becomes friable, rolls up at the edges, or becomes loosened and is expectorated. More often, however, in untreated cases, death results from the overwhelming toxemia and paralysis of the brain centers.

One type of faucial diphtheria deserves particular mention because of the frequent error in diagnosis. I refer to the phlegmonous type or the type which simulates peritonsillar abscess. Unilateral swelling of the peritonsillar tissue with crowding of the median raphe to one side is the general picture. Membrane may occur only on the tonsil at first, and there be hidden by the swelling, or it may extend over the swelling in a thin film which escapes notice in a cursory examination. It is in this stage that such throats are often lanced, and the operator is dismayed some hours later to find the condition tremendously aggravated and the throat filled with membrane.

Anterior nasal diphtheria does not present this acute picture. Its course may be weeks or months if untreated and may be regarded as a simple cold. It produces, usually, a sero-sanguinous discharge, slight to profuse, which often excoriates the nostrils and upper lip. It may be unilateral or bi-

lateral. Careful removal of the discharge from the nostril will usually reveal the characteristic membrane on the septate wall, turbinates, or lining the cavity. Absorption from this type is usually not sufficient to produce symptoms, but its extension to the throat or larynx may rapidly change the picture.

Nasal vault diphtheria may at times be very difficult of diagnosis. The membrane lies hidden by the palate, and only special examination will reveal its presence, yet it is important that a diagnosis be made at the earliest possible moment because of the rapidity of absorption from this area which makes this a particularly dangerous form. The membrane may appear at the edge of the palate or in the anterior nares and clear the diagnosis. When it is suspected, one should investigate this region by a throat mirror.

Laryngeal diphtheria is the most serious type of the disease because of the danger of asphyxiation and broncho-pneumonia. Absorption from the larynx being very limited, peripheral and cardiac paralyses are practically never seen. The problem is essentially one of mechanical obstruction to breathing. The disease may be present only in the larynx, and cultures from the nose and throat be entirely negative. For a diagnosis, then, in many cases, one must depend upon history and physical signs. A slight initial cough which soon becomes croupy is usually the first sign of involvement of the larynx. The voice next becomes hoarse, and may progress within a few hours to complete aphonia. If the membrane is below the larynx, however, the voice may be only slightly impaired. The advent of stridor is indicative of laryngeal stenosis. If the obstruction be at the larynx, stridor will be equal on inspiration and expiration.

In addition to the croupy cough, aphonia, inspiratory and expiratory dyspnoea with stridor, one notices suprasternal and infrasternal retraction varying in intensity with the degree of obstruction. This is due to the soft parts being sucked into the vacuum which is produced within the chest cavity when the respiratory muscles contract, and is very prominent when the stenosis is great. Cyanosis, restlessness, and struggling for air finally develop and continue until pallid asphyxia and death take place.

In the average case of laryngeal diphtheria, stenotic signs will be fully developed in three to four days. Occasionally the course is more rapid, yet sometimes a week or more may be consumed before grave respiratory obstruction is present. It should be noted that the condition being one of mechanical obstruction, there is a steady pro-

gression of the signs. A complete subsidence of all signs for a period of hours would throw doubt on the diagnosis.

Laryngoscopy is of tremendous aid in determining the correct diagnosis in cases of laryngeal obstruction. In diphtheria the characteristic membrane can be seen on the cords and in some instances, can be removed with forceps with immediate cessation of the obstructive signs. Laryngoscopy has the added value of eliminating the danger of attempting intubation when the obstruction may be due to foreign bodies.

Time does not permit a discussion of the rarer types of diphtheria mentioned at the beginning of this paper.

The diagnosis of diphtheria was tremendously aided by Klebs and Loeffler in 1883 and 1884 when they discovered the causative organism. In every case of true diphtheria this organism must be present and should be revealed by culture. It must be remembered, however, that the culture media may not be proper, that the swab may not have come in contact with the diphtheria bacilli, that the planting may not have been properly done, that the incubating temperature may have been too hot or too cold or of too brief duration, that the stain or method of staining may be at fault, and finally that the diagnosis of the slide may be inaccurate. One negative culture in a suspicious throat is not sufficient nor are two, nor possibly three. *Clinical evidence should always take precedence over cultural diagnosis.*

The Shick test is also a valuable aid in the diagnosis of diphtheria. A negative test is almost certain evidence that a diphtheritic infection is absent. Again the materials and technique must be dependable.

In the differential diagnosis of faucial diphtheria, streptococcic sore throat is the most difficult disease to distinguish, and if membrane be present, one may be able to make the differentiation only by culture or by Shick test. Ordinarily streptococcic sore throat is accompanied by more severe constitutional symptoms and the temperature is higher. Locally the inflammation is much more brilliant and extensive. The membrane is usually much whiter, is more uneven in appearance, and is likely to feather off or to show the presence of ulceration at the edge.

Follicular tonsillitis and follicular diphtheria may be much alike but the plugs of exudate and intensive redness in the former are quite distinct from the definite patches of membrane and mild redness of the latter.

The ulceration of Vincent's angina may become so filled with necrotic tissue as to simulate mem-

brane. Removal of the exudate will always reveal the ulcerated character of the lesion, and the smear from its base will show the spirochete and fusiform bacillus. Occasionally these organisms are seen in conjunction with diphtheritic membrane, or are present in dirty mouths. One should therefore, be careful not to exclude diphtheria upon finding them.

The syphilitic chancre is usually easily differentiated by its ulcerated character, chronicity, and glandular enlargement.

Tuberculosis of the throat produces ulceration and is chronic.

Peritonsillar abscess, as before stated, may be simulated very closely by phlegmonous diphtheria. The inflammation is much more brilliant in peritonsillar abscess, the pain much greater, and the temperature much higher. As phlegmonous diphtheria is always severe, great care must be used in detecting it early. Undoubtedly fewer mistakes would occur if every peritonsillar swelling were cultured before it were lanced.

Bichloride of mercury poisoning may give throat lesions almost identical with those of diphtheria. The metallic odor on the breath, together with sore and swollen gums, and the absence of any fever, may serve to indicate the true condition.

Thrush may at times resemble diphtheria.

Nasal diphtheria may be simulated by foreign bodies, rhinitis, sinus infection, ulceration of the septum, syphilis of the nose, and by caries of the vomer.

Spasmodic croup is the most common condition the physician is called upon to differentiate from laryngeal diphtheria. Its sudden onset and sudden disappearance are its distinguishing features. A croupy cough and hoarseness which persists unchanged for twenty-four hours or more is probably not spasmodic croup. In cases of croup one should always note the presence or absence of Koplik spots since measles may have as its beginning, a severe laryngitis. Intubation is sometimes required to relieve these patients. A streptococcic laryngitis may imitate almost exactly laryngeal diphtheria. The laryngoscope usually shows much more brilliant inflammation of the larynx without definite membrane formation, the obstruction being due to swelling. Cultures taken directly from the larynx will fail to show the Klebs-Loeffler bacillus. Foreign bodies, mucous polyps, syphilis and tuberculosis of the cords are occasionally confused with laryngeal diphtheria.

The complications of diphtheria, aside from the nerve injuries, are relatively few and unimportant and will not be considered here. Peripheral and

cardiac paralyses will be discussed briefly. The diphtheritic organisms secrete a soluble toxin which circulates in the blood stream and produces degeneration of the nerve fibre, the cell escaping. Both sensory and motor nerve fibres are involved, but the motor the more often and the more extensive. Sensory fibres are never involved alone, while the motor may be. The sympathetic system is never involved. The paralysis is never complete, and unless death results, it clears up entirely. It occurs only in the faucial and nasal vault cases, absorption from the nose and larynx being slight. Ordinarily only the severe cases are complicated by paralysis, but it sometimes occurs in apparently mild cases.

Commonly, paralysis appears in the second or third week and lasts from one to eight weeks. It is unlikely to appear after the seventh week. Paralysis of the soft palate in faucial cases has been observed as early as the fifth day, but this is due to involvement of the nerve endings by local extension of the toxin and the paralysis is likely to recur in the third or fourth week from injury higher up and due to blood borne toxin. This is the only recurring paralysis seen. Sometimes there is a definite progression of the paralysis in faucial cases, appearing first in the throat, the eyes, face, larynx, neck, arms, trunk, and legs, and clearing in the same order, so that at one time only one locality may show paralysis.

Palatal paralysis is the most common type seen and appears the earliest. When present the voice is nasal and fluids are regurgitated through the nose. Paralysis of the swallowing muscles may necessitate tube feedings. Voice changes may occur due to paralysis of the laryngeal muscles.

The ciliary muscles of the eyes may be involved so that reading is difficult. Frequently one's attention is attracted to this condition by the patient's complaint of his difficulty. Face, arm, leg, and trunk paralysis varies from slight to severe, but is never complete.

Respiratory and cardiac paralyses are the only types dangerous to life. Respiratory paralysis occurs as late as the fifth or sixth week of convalescence. Either the phrenic nerves or accessory muscles of respiration or both, may be involved. A fatal outcome is not unusual.

Post-diphtheritic paralysis of the heart is the most serious of the complications. It appears early in the convalescence, often a few days after the throat has cleared up, and when the family and sometimes the physician are totally unprepared for the quick turn of affairs. Death may occur in twelve to twenty-four hours. If the patient lives a week his chances for recovery are

good. Fifty to 100 per cent of cases developing cardiac paralysis die.

Ordinarily it appears during the second week. After three weeks it is not likely to develop. Both the heart muscle and its nerves are effected. The heart rate may be rapid when the vagi are involved and may be as slow as 20-30 when block occurs. Marked irregularity and even fibrillation and flutter may occur. Often a three or four sound gallop rhythm is the chief evidence of cardiac involvement. The heart muscle is severely damaged and dilatation is often marked and rapid. Vomiting, pallor, loss of appetite, epigastric pain, and listlessness are common early symptoms of cardiac paralysis. Œdema, if it occurs, is very slight and rarely is the patient dyspnoëic or cyanotic. The liver enlarges from passive congestion so that its border may reach the umbilicus. The blood pressure is low, sometimes the systolic being only 50 to 60. If death does not occur in the first week, undue exertion such as sitting up or walking to the bathroom any time for weeks thereafter may result in acute dilatation of the heart muscle and immediate death. Such deaths are commonly ascribed by the laity to too much antitoxin. It is a remarkable fact that such severe damage as may be done to the neuro-muscular system of the heart will, unless death occurs, entirely clear up and leave no traces.

The specific treatment of diphtheria is with antitoxin. The amount that shall be given depends upon the type and the severity of the type and not upon the age or size of the patient. As it is impossible accurately to determine the amount of toxin that is to be neutralized, and as the antitoxin does no harm, an excess or overdose should always be given at the initial dose. It is much preferable to have the antitoxin in the patient's system where it may not be needed than to have it in the icebox when the patient really needs it. The faucial and nasal vault types require the largest doses of antitoxin, the laryngeal types next, and the nasal least.

Antitoxin may be administered in three ways— intravenously, intramuscularly, and subcutaneously. It has been shown by Park that antitoxin diffuses ten times more rapidly when given intravenously than when given subcutaneously, and four times more rapidly when given intramuscularly than when given subcutaneously. All laryngeal cases should have antitoxin given intravenously, if possible, in order that the formation of membrane may be stopped at the earliest possible moment. Ordinarily 10,000 to 20,000 units of antitoxin is sufficient. For all nasal cases, 2,000 to 10,000 units will suffice, and the sub-

cutaneous method is satisfactory. The amount of antitoxin to be given in a case of faucial diphtheria will depend upon the amount of membrane present, upon the amount of swelling, and upon the length of time it has taken the process to reach its present stage. Those cases which show only membrane without swelling may be classed as mild to moderate, and will yield to 10,000 to 20,000 units of antitoxin given subcutaneously. In the moderately severe cases with swelling, the antitoxin is best given intravenously in doses of 20,000 to 40,000 units.

Malignant cases with great swelling of the throat and neck, and with extensive membrane formation should always have antitoxin given intravenously in doses of 60,000 to 100,000 units. The neutralization of toxins at the earliest possible moment is important because one has no means of determining just how much toxic damage will produce fatal cardiac paralysis or death from toxemia.

The annoying urticaria which occasionally follows antitoxin treatment may be temporarily relieved by subcutaneous injection of adrenalin hydrochloride.

CONCLUSIONS:

1. Diphtheria is a disease that can and must be, nearly, or completely, eradicated.
2. While it is existent in present proportions, an unfortunate number of deaths will continue to occur.
3. The disease presents a characteristic appearance wherever found and is to be diagnosed by clinical appearance, cultures, and Schick test.
4. Death occurs in malignant cases from toxemia; in laryngeal cases from asphyxiation and broncho-pneumonia; and in mild, moderate or severe faucial cases from cardiac or peripheral paralysis.
5. If one suspects diphtheria strongly enough to give antitoxin, sufficient should be given at the first dose to completely stop the process.

Discussion

Dr. L. R. Woodward, Mason City—As Dr. Hill has said, we know more about diphtheria at the present time than any disease we are treating. And yet too many people are dying of this disease, and I think the reason is that there is more money in taking out an appendix than in treating diphtheria. As stated by the essayist, there is no reason why diphtheria should not be completely eliminated within the next few years. I find that the great majority of the profession do not know that diphtheria can be so completely eradicated. For a number of years Park and Zingher have been working on the prevention of diphtheria, and they have established beyond question of doubt that the prophylactic treatment of this

disease will prevent it. They have immunized some 95,000 school children in New York city, and diphtheria among the immunized children is a rarity. By the use of the Schick test they have learned a great many things. First, nearly all adults are immune. In New York city, by the fifth year of life 50 per cent of children are immune. So their proposition is that all children should be immunized before they go to school. In Mason City we had quite an epidemic of diphtheria during the past winter. So I took up the proposition of using the Schick test in school children, and found that up to the tenth year about 70 per cent of children are still Schick positive, which means that they are not immune. I think the reason children in the smaller cities and the rural districts are not immune to the same degree they are in the large cities is the fact that they are not exposed. The development of the theory of immunity in diphtheria is that children have had a mild unrecognized infection and have developed immunity. In New York city Park and Zingher have found that the children of the well-to-do are more apt to be susceptible to diphtheria than those in tenement districts, where practically all show that they have had a mild infection. Of course many of those who have had a severe infection have died of unrecognized diphtheria, but those that live have an immunity. But at the present time, in toxin-antitoxin we have at our command the means whereby we may absolutely eradicate diphtheria. During the fall and winter I have immunized between 300 and 400 children in Mason City, and in only one instance have I had a case of diphtheria and that was three months after treatment for immunization had been given. The only trouble with immunization is the length of time it takes for immunity to develop. It was a mild case and promptly responded to a very small amount of antitoxin. I think the time has come for the profession at large to take up immunization with toxin antitoxin against diphtheria. All the commercial houses are supplying it and I think the toxin-antitoxin that they are furnishing can be trusted. However, I am using the product put out by the New York Board of Health, the same as Park and Zingher are using. In the one case of diphtheria that developed three months after immunization treatment had been given, I had used toxin-antitoxin from a commercial house. I have had no cases at all in the children treated with the toxin-antitoxin from the New York Board of Health. There is a side to this problem that appeals to me much more than the actual treatment of the disease. I think all children should be immunized by toxin-antitoxin before going to the kindergarten, the same as in small-pox. Then and not until then will diphtheria cease. With reference to the diagnosis. In a consultation practice I am finding that the profession at large are getting to depend upon the laboratory for entirely too many things. They depend upon the Wassermann for diagnosis of syphilis, and they depend upon the laboratory for diagnosis of diphtheria. Diphtheria is a clinical entity regardless of the culture. The state

laboratory is rendering most efficient service, but a great many will have to wait forty-eight to seventy-two hours for a report, and, even if the report is correct, in a case of diphtheria that is too long to wait. If the patient needs antitoxin he should have it immediately. Therefore the physician should know clinical diphtheria when he sees it. Another great mistake is that too many adults are given antitoxin without clinical evidence of diphtheria because of a positive culture. In the case of a child, whenever there is doubt give antitoxin, but with adults it is a different proposition. We know that at least 95 per cent of adults are immune, so there is only a 5 per cent chance that adults have diphtheria, and antitoxin is more apt to produce a severe urticaria in an adult than in a child. Practically all cases of severe urticaria have been in adults because throughout life they have become sensitized to horse serum one way or another. So the receipt of a positive culture in an adult does not carry a great deal of weight with me in making diagnosis of diphtheria. If it is clinical diphtheria I give antitoxin, if not I apply the Schick test to determine whether or not the patient is immune. If already immune there is no need of giving antitoxin. The Schick test is one of the most reliable things we have to use. However, I find that the Schick toxin put up and marketed by commercial houses is not to be relied upon. This test is important because you are going to base the giving of antitoxin on the reaction obtained by the test. In the case of an adult you are going to depend upon the Schick test to determine whether or not it is necessary to administer antitoxin. So you must know the toxin you are using is potent.

Dr. Don M. Griswold, Iowa City—Possibly the dosage of diphtheria antitoxin suggested by the essayist will shock some of you, but when we put the dose at 20,000 or 30,000 units we are stating the case on the average rather than as an exception. The second largest institution in this country gives 40,000 units to every case of diphtheria that enters. Not to repeat anything that has been covered this morning I will call your attention to the fact that for each case of diphtheria you see four or five other people are seriously exposed. It has been quite conclusively shown that 1,000 unit doses do not protect in all instances. If we are going to use antitoxin as a preventive, let us give at least 5,000 units. I have taken up with the biological manufacturers the matter of discontinuing the manufacture of 1,000 unit doses, and their only plea is that physicians are still calling for them. Therefore let us discontinue their use as a snare and delusion. In regard to using antitoxin promiscuously, I think this practice should be a thing of the past. Before we had the Schick test it was necessary to use antitoxin much more widely in the prevention of diphtheria than at the present time. I definitely pin my faith to accurate physical examination of the individual rather than to any of the methods that are so much easier from the medical standpoint. The point has been made that we are

relying on the laboratory entirely too much. We should not do this. A laboratory report is not a diagnosis and never should be considered as such. A good diagnosis is always made from a careful history, an accurate physical examination, and a complete laboratory report. As to the four or five individuals exposed to a case of diphtheria, in the past we gave immunizing doses. This is still sometimes necessary, but where you call at the house every day or every other day there would seem to be no necessity of giving immunizing doses. You see the individuals so frequently that you can quite clearly diagnose the disease if it develops among the exposures in the quarantine. By giving large numbers of people antitoxin, as I have done in the past, you will sensitize some of them against horse serum which some time in the future may give them considerable trouble. The advent of the Schick test has made it easy to determine who are susceptible, and this should be done to all exposures who show no clinical manifestations of diphtheria. As to the conduct and technical procedure, these can be easily mastered if we determine to do so. I have done about 25,000 Schick tests on school children. Members of my staff have done 5,000 Schick tests in the child-caring institutions of this state. This work was begun in August, 1922, and so far as I have been informed there have been no cases of diphtheria among those 5,000 children in state institutions. The Schick test outfit we are advising against is the one known as the small package, or 10-test outfit. The smallest I would recommend would be the 30-test outfit. But better than that is the 100-test outfit. You will find that your work will be enough more accurate to pay you for the extra expense involved. In regard to toxin-antitoxin administration for the development of immunity, I think it is on exactly the same basis as our present method of immunizing against typhoid fever. The technic is practically the same. To develop immunization against diphtheria is one of the things we must work for if we are ever to eradicate diphtheria.

Dr. Walter L. Bierring, Des Moines—I want to express appreciation to the program committee for placing this paper on the program. To have a subject like diphtheria covered in such a comprehensive manner is distinctly impressive. Those of us who have been attending these meetings over a long period will recall the many interesting discussions that have arisen on this subject. The first time the treatment of diphtheria by antitoxin was discussed in this society was twenty-eight years ago, and at that time we thought we were brave in suggesting a dosage of 5,000 units. We would have believed that any one coming here, even from Boston, with the advice that we use 60,000 to 100,000 units intravenously, was recommending something impossible. I think this paper will stimulate us not only in closer observation of the clinical symptoms of diphtheria, but also in the prevention of the disease, for that it can be prevented by the use of the Schick test and the toxin-

antitoxin immunization seems to be definitely established.

Dr. M. L. Turner, Des Moines—I want to stress one point: That we give our antitoxin without waiting for a laboratory examination. Take no chances on it. In Des Moines we have had a number of instances where diagnosis has been made of follicular tonsillitis that later proved to be diphtheria. If we have a case that has a symptom of diphtheria it does not do any harm to give antitoxin. We have had three or four deaths in Des Moines because antitoxin was not given early. Give it at the first symptom. Do not wait for returns from the laboratory, for it will be twenty-four to forty-eight hours before you get that report and much damage may be done. Give it early. Dr. Hill is a competitor of mine. He has had sufficient experience to know what diphtheria is. He has come from Dr. Place of Boston, one of the best men on contagious diseases in the United States, and I am sure he will be able to answer any questions you may ask him.

Dr. Hill—I am very grateful for the discussion along lines of prevention, which I could not incorporate in my paper, for of course the greater emphasis should be directed toward the prevention of such a disease, as diphtheria. It is interesting to think what would happen if there came a blight on the corn crop in Iowa. Millions of dollars would be spent if necessary in stamping it out as rapidly as possible. And yet for eight or ten years we have had a real cure for the prevention of the diphtheria blight on our child crop, but as yet it has not gotten under way. I want to speak one word about the culture taken for the diagnosis of diphtheria. I really think there would be fewer deaths from diphtheria if no culture were taken for diagnosis. We see a child with membrane in its throat, take a culture to give us the diagnosis instead of doing a little thinking about it, promptly forget it till the next morning, and when we go around later, find that the throat has become tremendously aggravated, and in that twenty-four hours sufficient toxin may have developed to kill the patient. I think we should give antitoxin first and take the culture afterwards in most cases. I am sure every case would recover if a sufficient dosage had been given during the first twenty-four hours of the disease. It is after twenty-four hours of the disease that we lose our patients. A word in regard to the after-care of cases of diphtheria. I think every case should be kept in bed for one or two weeks and careful attention paid to the heart. Even in mild cases there oftentimes occurs a fatal cardiac paralysis. One other factor has been brought out in the discussion, which is that there are one or two out of 100 youngsters that cannot be made immune by means of toxin-antitoxin—one or two per cent will not develop immunity after the three injections have been made. Therefore I think we should follow it up within three to six months by the Schick test to prove whether or not we have established an immunity.

A MEDICO-PSYCHOLOGICAL SURVEY OF MORONS IN IOWA*

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Fourteen years ago I made an extended circuit of institutions in this country, studying methods of treating the feeble-minded and other defectives, and then found at Vineland, New Jersey, the finest type of achievement. Here was a group of nearly five hundred feeble-minded of all grades. Let us say roughly that two-thirds of them were hopeless idiots and imbeciles fit only for institutional care, in the sense of mere care. But of the remaining one-third, I can say that they were happy, useful and good. That was a most astonishing find. Children, many of whom had come from wealthy and refined homes, because unhappy, useless, and bad, were here happy, useful and good. And this is the secret of the transformation; each child was studied carefully to find the type of work that he could perform well.

The secret of success in this institution is that the child is studied carefully and tried out as an apprentice until his highest level of achievement has been discovered. Then he is assigned to a task as his job; is trained, trusted, and rewarded just the same as a workman is trusted at his task under the direction of the foreman.

In order to appreciate the significance of this, we must bear in mind certain characteristics of the morons. First, no two morons are alike any more than two physicians or professors are alike. Each moron usually has some forte, some capacity, in which he can excel, and often do superior work, if only he is fortunate enough to find it. It was thrilling to see how this institution had discovered normal and sometimes high capacities for particular tasks among these so-called helpless boys and girls, who worked, beaming with pride in their occupations.

The second characteristic of the moron is that he lacks initiative. For this reason he does not play. Feeble-minded children do not play, or at least, do not play in the same way that normal children do. They do not think in the same way, although they may think a great deal within limited fields. As a result of this, they are satisfied to continue in the same occupation quite indefinitely provided somebody takes the right initiative and does their thinking for them to the extent of starting them off in some work. A girl, for instance, who is assigned to the dusting of

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furniture when she is young, if allowed to do so, will continue throughout life to wipe furniture, and will do it to perfection without getting tired of the job. Herein lies a tremendous leverage for institutional care. Specialization to the highest degree is the foundation on which it must be organized, because the moron has specific and limited capacities, has neither power nor desire for readjustment, and is happy to continue in what to others would be the veriest drudgery.

These two facts—the diversity of closely restricted capabilities, and the lack of initiative and forethought—make the moron a very desirable institutional case.

What do these morons need? They need to be made happy, useful, and good. And that can be done! Incidentally, society will be made safer and many sources of pollution will be cleared up. Criminology, penology, educational psychology and social work all point to the same solution; namely, grant them an environment suited to their needs; make them as nearly as possible self-supporting, self-respecting, and successful.

A few years ago I proposed to the board of control that this principle should be adopted for the care and treatment of all mental and moral defectives and delinquents in Iowa by providing segregated colonies with ample farm and industrial facilities, the aim being to adopt a thorough-going educational and industrial method of providing home and occupation for those individuals who are dangerous to society, unfit to sustain themselves in the normal community, and yet capable of contributing toward their self-support.

Two hearings were held before the board of control on this issue, and the proposition was favorably received, but was sidetracked on account of the political situation at that time. The time has now arrived to take the first step, which is to organize a thorough medico-psychological survey of the state for the purpose of finding out the number of mentally defective and delinquent who are characterized by the following four marks: (1) permanently defective, delinquent, or criminal; (2) dangerous to society; (3) occupationally fit for an institutionalized group; and (4) not now provided for adequately either in an institution or a home. These four criteria I think should be used to determine who are fit for such colonization; i. e., their mental inadequacy is permanent, they are dangerous to society, they are capable of contributing toward self-support, and are not now wisely placed. Most of these will fall under the general designation of morons.

Before considering such colonization, a survey should be made showing the approximate num-

ber of each class of defective or delinquent coming under the above definition, and some estimate of the types of capacity for work as a basis for specifications for organization of colonies. This examination should be made through the co-operation of a specially qualified psychiatrist and a clinical psychologist, both of whom are recognized as authorities on mental deficiency, delinquency, and crime, and their amelioration.

These surveyors should examine, first, our charitable and penal institutions with the object of discovering how many of the present inmates would be better placed in a co-operative colony. It is well known that a very large percentage of the inmates of our prisons are feeble-minded and should be treated not by penal methods, but by industrial, homelike, and economic methods with the type of freedom that they are capable of enjoying. There may even be in our insane asylums cases of this class in which a more cheerful environment would be not only feasible, but profitable to the individual and to the state. The inmates of our various schools of correction should be sorted into two classes; first, those that come under the above definition as fit for co-operative colonization, and second, those which should have the type of treatment that is now furnished by these schools. Our institution for the feeble-minded is not adequate to care for half of the children who should be institutionalized in this state. While idiots and imbeciles are by our classification regarded as completely helpless, uncouth, and merely capable of vegetative life, morons, if adequately organized, are capable of taking their share of labor in all stages of institutional occupation and farm industry where they are assigned to specialized tasks. The orphans' homes have many cases which belong to this class and should be taken out for their own good and for the good of the orphans' homes. On the basis of the study of some typical municipal and county court records, and on the experience of the associated charities, the surveyors should be able to make an estimate of the approximate number of the class that should qualify for the colonies but are now at large in the state. Even the schools will contribute a considerable number of candidates for the cooperative colonies.

In addition to these actual surveys and local statistics, the surveyors should make a study of existing statistics of the prevailing classification and frequency distribution of morons, and the experience of past and present experiments in colonization.

On such material evidence, a legislative committee could draw up a well-considered plan for legislation which would take into account recent

scientific progress in the diagnosis of this type of cases, the consequent change in administrative policy on the part of corrective, custodial, and penal institutions, and in particular the successes and failures of recently established institutions of the character here proposed.

The establishment of two adequate colonies of this kind, one for males and one for females, would result in first, the clearing of our present institutions of inmates who are clearly misplaced, to their own personal loss, the detriment of the institution, and a loss to society. Second, an inviting, wholesome, and progressive home being offered would aid in clearing the state of these unfortunates who, while themselves suffering, are endangering society by being at large. Third, the organization could be justified over and over again on the economic issue alone, in that by proper organization an institution of this kind could be made practically self-sustaining. Given the initial plan and a proper system of selection, the colony should be economically independent. Fourth, it could also be justified on the principle, alone, that these unfortunates are placed in a position where they may have the joy of success in a position full of opportunity for achieving, each at his natural level, carrying the approbation of their community and that self-respect which is essential to happiness. And, fifth, there would also be a reciprocal effect upon the institutions and homes and communities from which the morons are taken.

Members of the Medical Society—no well informed person at the present time doubts the wisdom of proceeding in this general direction of colonization and socialization of our mental dependents; no one would advise hasty legislation without a full survey of the situation; and no organized body in the state is better qualified to take the initiative in calling for a survey of this kind than the State Medical Society. I have therefore taken the liberty of calling this situation to your attention in the hope that if the idea should commend itself to you, the proposition may be given adequate consideration in your committee on resolutions, and, if favored, be appropriately furthered through your scientific and medico-legal committees.

Discussion

Dr. Frank A. Ely, Des Moines—I have long pondered upon the question as to just what subtle influence has led many of my colleagues and others into the realm of specialization. You will note from Dr. Seashore's description of the characteristics of the moron that he lends himself eminently to the realm of specialization. It has been alleged that psychologists and psychiatrists are proverbially verbose and

impractical. I hope you will recognize with me the refutation of this accusation in the presentation that has just been brought before you—brevity and a paper which is eminently practical. For the sake of many of you who are not perhaps so familiar with the more minute classification of mental defects, I will say that the moron mentioned here is not the moron of the newspaper. The moron of the newspaper is usually a constitutional psychopathic inferior individual. The moron is usually considered by the laity as a criminal because in the newspapers the moron has been intimately associated with criminology. The fact is that more frequently the moron is an adaptable patient. As the essayist has said, he is the person who will start and do, when shown how to do, the same thing day in and day out, year in and year out, and be very happy on the job. If the state of our high civilization brings us to a point in the future where every one will be so highly educated that he will not care to do any kind of a menial job, we will have to depend upon the morons. The Doctor has said that the moron has two characteristics: The lack of initiative and the tendency to do certain things in an entirely routine manner. This is eminently true of the moron. He has also said that we want to keep these people happy, we want to keep them good, we want to keep them safe, and, last but not least, we want to keep them as economically as possible. You know when we are trying to get anything across in a corn-fed state we have to talk from the standpoint of economics. The moron can be made to make himself largely self-sustaining, and by creating segregation colonies in which these individuals may be cared for and their peculiar adaptability picked out, they can be put into certain lines of work which they will do more faithfully and better than could those people who have a higher grade of mentality, simply because they do not feel it is beneath their dignity to do that sort of thing. And these institutions can be made very largely self-supporting and by the work of the morons themselves. You may ask, can these people be made more happy by segregation than by maintenance in their homes. I think I can answer this question quite satisfactorily by stating that the average individual of arrested mentality, even those of intelligence lower than that of the moron, are much happier in an environment which does not reveal to them the disparity of their capabilities as compared with those of their associates. In a great many cases I have experienced much difficulty in convincing parents that their mentally deficient children would be far better off in institutions where their greatest capabilities might be uncovered. After having convinced them, it has been a frequent occurrence to have these parents come back to me, expressing their thankfulness for my having advised institution care. One mother, who placed her Mongolian offspring at Glenwood, came to me highly pleased because she said her son had been given charge of the phonographic records in the institution and that it did her heart good to observe the pride which he took in this particular piece of

work. Not infrequently when these defective children are brought home, they manifest a decided preference for institution life. If this be true, the same thing will in a large measure apply to those suffering from the higher types of mental arrestment. Even if it might seem impractical to institute a wholesale colonization of the morons, it would certainly be practical to make a beginning, by colonizing those of the criminalistic type, thus blunting the sting of criminalistic stigma and making these defective people more useful and self-supporting. I hope the rank and file of medical men in Iowa will take this seriously to heart and recognize that it is a wonderful thing, that it is going to protect the people, it is going to protect the patients and make them more useful citizens, and that at the same time it can be done on a reasonably economic basis.

Dr. Fred Moore, Des Moines—Dr. Ely has dwelt upon the economy of taking care of these children. They are already being taken care of at great expense and with little return. At the present time our public schools are much congested with this type. You are frequently consulted in regard to a child presented for examination with the request that you find whether there is anything physically wrong to account for the fact that he is not getting along at school. Often your answer is in the negative. Along about the third grade those children greatly increase in number. Our law of compulsory education requires that these children be kept in school up to the age of fifteen, so here we have a situation in which we are required to keep children in school and in many instances they are not getting anything out of it. The fact that they are misfits makes them incorrigible, they are not understood by the teacher. They not only fail to derive any benefit, but are a hindrance to normal children in the school. Therefore I think we are already spending the money for the care of these children and not getting the results. I would like to call the attention of the members of the society, many of whom are members of boards of education, to the fact that there is one field in which some work can be done in this line at an earlier period. It does not take a very considerable number of children in school to present a group of individuals who cannot be graded in the usual manner. This group should be put in an ungraded room with some teacher specially trained to handle children that are not normal. In this way something can be done to keep them from becoming incorrigible and entering into the penal class.

Dr. Max E. Witte, Clarinda—It was not my intention to discuss Professor Seashore's most admirable paper nor Dr. Ely's discussion; both have my full approval and admiration. But I want to say something in connection with Dr. Moore's statement as to the expensiveness of taking these backward children into the schools. It is not only that they are expensive, but experienced and thoroughgoing school men will tell you that they are also a positive injury to the normal children, they are a clog and impediment in

the way of advancement to the others. So they are not only expensive, but harmful. What I particularly want to say is not in connection with the moron, but is in regard to the title of Professor Seashore's paper as given on the program—"The relation of Psychology to Medicine." I want to refer to a factor that is a matter of every-day observation and experience with you, and it may be somewhat difficult to find an explanation. Some one has said, and I agree, that a large proportion of patients coming to your office or coming under your care are not sick at all, but their disorder is psychic, and a very large proportion of the remainder will get well by the unaided efforts of nature without the Doctor's help or guidance. A small minority are really sick, pathological changes have taken place in both the anatomy and physiology, the disease having advanced beyond the chemical degree. It is your business to sift these. But you want to remember that a large number of patients whose trouble is not psychic, who are not dishonest, who are not trying to deceive you, are deceiving themselves. They are the ones on whom certain practices have built their existence and their fame—the magnetic healer, the man who thumbs your vertebral prominence down to the coccyx, the disciples of Mother Eddy, the fakers of all sorts who are depending upon these people for their existence. Years ago, in the confines of this city, was a man who worked wonderful cures only during a certain stage of the moon. He was a sort of a perambulating battery of occult force that brought healing by the laying on of hands, and people came from all over the country, even from Missouri, and laid by their crutches and walked home, well. These crutches were on display for the encouragement of newcomers. The basic psychological principle on which this treatment operated was that of drawing expectant attention to their troubles and an inspiration of hope of relief, with the result that they were relieved. As a matter of fact these people were benefited and there was nothing occult about it. An understanding of psychology and what underlies physiological anatomy will tell you how it worked. A person inspired by an expectation of relief automatically opens the flood-gates of vascularization to the affected part and there has been by cerebration a stimulation of terminal neurons via the cord. In individuals with a paralysis from dissociation we will find the symptoms relieved under a certain stimulus. I have had hysterical cases of paraplegia or hemiplegia or multiple paralysis and all sorts of defects in innervation, and sensory disturbances, yet under a certain strain they were relieved. I once knew a woman who lay in bed for two or three years, apparently paralyzed, but who, under the stimulus of the call of fire, got right up and walked out. There was no lesion, everything was all right. Therefore under the proper stimulation whether it is legitimately furnished by you or supplied by the magnetic or other healer, function is established. We should apply these forces in our every-day work. It is a matter of inspiring hope or

fear. I have known two practitioners, one a pessimist and the other an optimist, of whom the pessimist was really the abler man, but his patients did not get well—it was the other man who knew less of therapy, whose diagnosis was not so clear or scientific, who inspired his patients and they recovered. His mere visit was better than medicine.

Dr. D. C. Brockman, Ottumwa—It is well known to every man who is a student of economics that crime and degeneracy in the United States is on the increase. This sounds pessimistic, and I am an optimist. But, as much of an optimist as I am, I know that the defective class is increasing faster than the upper class. And you know it if you will stop to reason. Why? Because the defective class knows no law whatever except the natural law, they propagate just as fast as the law of nature allows. The people of the better class, as college graduates, are different and their families are small. What is the result? The defective class is increasing rapidly while the higher class is decreasing. What is the remedy? Shall we pass laws prohibiting marriage of the defectives? That would not do any good, it would do harm. We must do just what Professor Seashore has advised—put the defectives away. Adopt the slogan—"let every defective be the last of his generation." That is the only way we can lessen this evil. The country is being overrun with criminals (we call them criminals), our penal institutions are full, and we know that the great majority of people in the penitentiaries haven't as much business to be there as we have because we are the greater criminals. They are not criminals, they are defectives, and we send them there—for what purpose? We have had two or three of them here. We had one man who was sent up for a year or a year and a half seven different times for petty thieving. What was the result? That defective has seven or eight children in this town. He has a child born for every time he comes home. Therefore instead of but one defective we have seven or eight defectives or more. That system should be discontinued. We must teach the people that the most economical way to handle this subject is by putting every defective in an institution—not a penal institution, but an institution where he will be kept and taken care of, taught to work, earn his living, and be the last of his generation. That is the only remedy, and the sooner this society, the colleges and universities and the courts recognize this necessity the better it will be for civilization. Every criminal court should have a psychologist connected with it to pass on the accused. We do not want to send defectives to the penitentiary.

Dr. Seashore—You will notice that no one has spoken against the proposal, and that is significant. I want to rub that in. You are all familiar with the very wise remark of Mark Twain: He had heard a great many people talk about the weather, but he had observed that nobody ever did anything about it. I want to appeal to you as members of the society to do something. I am not asking you to furnish any

particular machinery, but to do something to enable Iowa to keep reasonably to the front in this movement. But if you do so do not flatter yourselves that you are the leaders. When one is interested to look up what has been done in New York within the past ten years he will take his coat off and go to work to do something in Iowa. In the first place it is an enormously significant economic problem and there is only one side to it: It is economic. And it is interesting to be reminded that all the great refinements in the treatment of mankind have come through the operation of the dollar. The other point is that we are not asking anything that is derogatory to these people, but we are asking a favor for them. They cannot live in our homes, for these are not suitable for them. Our homes make them continually unhappy. They need a home of their own. And, as I have said, the institution makes a peculiarly happy home for them. I want to add also the idea that it may not cost much to make a survey of this kind. There are national agencies at the present time which if appealed to by such an organization as this dignified body would be glad no doubt to step right in and help us in making this survey by the best experts in the country.

MASKED INFECTION PASSING AS NEURASTHENIA*

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Search for the cause of neurasthenia should be as fascinating to the investigator as search for the cause of cancer. Both diseases are so prevalent, so malignant and hopeless in outlook, that one might feel well repaid for endless time and effort spent if by his effort even a little light were shed on the mystery of its etiology. As recently stated in the foremost exponent of American medical progress¹ "the failure of clinical medicine to make satisfactory progress in the management of certain types of functional nervous disturbances justifies us in giving a respectful hearing to any reasonable proposal." The idea of masked infection passing for neurasthenia is not new, though the literature at hand does not show many writers attempting to establish a connection between the two processes. The idea is not born of the imagination but is a conception resulting from contact with these unfortunates and so often finding them harboring infectious processes. Far from being a weird conception, impossible of proof, it might be considered a reasonable working hypothesis that chronic masked infection may produce a chronic psychotic state. It has long been known that acute infections are capable of producing

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acute psychoses, notably during the puerperal state. Like cancer or perhaps more like tuberculosis, there is an insidiousness about the establishing of a focus of infection and no definite symptoms are given of ill health until there is developed a definite lesion.

The vital process—metabolism—requires for its proper functioning, absolute well being of the organism. If even latent infection exists in any organ, metabolism is thereby hampered: as infection persists, Nature copes with it as best she can, hoping for external relief, i. e., removal of the focus. Failing to receive that help, always resourceful, Nature arranges to carry on with the sub-oxidized, lowered tone we find in the neurasthenic. Post in a recent article² calls attention to the fact that “there is an increasing emphasis being placed on the influence of infections and intoxications on the respiratory functions of the blood and tissues.” Suboxidation is notoriously connected with the presence of intoxication from infectious processes and may be as truly present in a latent, hidden focus, as in an active, demonstrable lesion. To thus carry on with lowered vital tone is possible temporarily—following acute infections, influenza for example—and the psyche show no detrimental effect but the neurasthenic must carry on, day after day, year after year and when nature’s reserve is all consumed in the struggle to keep abreast with the throng in our competitive, strenuous modern existence, the final result of the strain is an altered psyche. The daily cycle of the neurasthenic may be summed up as follows: after recovering from the weariness of a non-restful sleep, feels fairly well in mid-forenoon; as the day wears on, the small reserve of vital force decreases until by night he has come to depend on nervous force rather than physical to keep going so that he finally retires nervously overwrought, again unable to get restful sleep. So is the vicious circle kept up, with constantly increasing ill health. Pember-ton³ mentions the relation of interrupted or upset metabolic processes to focal infection and the importance of appreciation of all the factors responsible for lowering of oxidative processes in order that therapy may have a rational basis.

No doubt the foremost advocate of the close relationship existing between infectious and psychotic processes is Cotton who has made extensive and prolonged study of their etiologic relationship^{4, 5, and 6}. His arguments or premises are attractive not to say convincing, before studying his findings. He states “the biologists are definite in the assertion that there can be no function without structure. This being true, it would

be also true that there can be no abnormal function without a corresponding abnormal structure. We should recognize, instead of the proverbial “inherited mental taint” a constitutional lowered resistance to various toxins. It is certain that the various infections are more important in the production of mental disease than are heredity, mental factors, environmental defects, personality and improper training.” These broad assertions coming from one who should speak with authority both from a general psychiatric experience and from his special investigations into this very phase of neuro-psychiatry, demand respectful attention. At the last annual meeting of the national psychiatric body, this investigator presented his latest findings on mental disease and focal infections and one is impressed with the importance of the subject by the commotion aroused and the mass of discussion that followed his presentation. When one realizes that this mental expert, at the zenith of his career, holds that every case of mental disease is due to some discoverable lesion the removal of which will result in a cure in every acute case and even some chronic cases, one is led to hope that his conclusions will be either widely accepted for the good of the race or as widely challenged, tried out and their fallacy proved so the rank and file of the profession may have the true light on this matter.

The possibility of a latent infection becoming active at times of stress is an interesting phase of the subject. Salomon⁸ reports entirely healthy women having saprophytic organisms in the vagina which were identical with those cultured from abscesses developing after operation. His theory was that the balance between the defensive forces and the microorganisms may be upset by trauma or operation, resulting in a slumbering infection being aroused to virulency. (In a recent article appearing in the April number of the Medical Clinics of North America, Cabot calls attention to the deleterious effect of any major operative procedure on personality, a possibility many surgeons would not admit.) Davis⁹ of Philadelphia places emphasis on the importance of recognizing such a thing as latent infection. He says: “Fortunately the great principle of focal infection seems now to be generally recognized and its application to the cure and prevention of disease will be rendered more and more practical in proportion to our application to the chief sources of latent sepsis.” Rosenow has more than any other observer, persistently tried to link up focal infection with general disease and holds that ¹⁰ “foci of infection often insignificant and symptomless in themselves, are a cause of sys-

temic disease." No argument is necessary here as all will admit that truly Rosenow says "the number of persons suffering from diseases directly attributable to these infections, as well as from non-related conditions, which have been cured or benefited by elimination of foci of infection in the various branches of medicine, is so large as to be quite sufficient to prove the general truth of the idea of a causal relationship." This being true, is it not as probably true that mental processes, such as neurasthenia, also controlled by cellular activity, may be hindered or vitiated by the existence of these foci of infection "insignificant or symptomless in themselves?"

As to the incidence of foci of infection, C. H. Mayo states: "eighty-five per cent of children have diseased teeth or tonsils, adenoids, curable and preventable." Black says that 25 per cent of us at age twenty-five have septic mouths; at forty, 90 per cent are septic, and after fifty, nearly all mouths are septic. Lewison mentions¹¹ the ever increasing importance attached to infection as a cause of heart failure as opposed to the old and generally accepted theory of back pressure." * * * "In all cases of cardiac failure, infection plays a much greater role than is generally recognized and is the real cause of the dilatation rather than the back pressure or cardiac strain. * * * This has great practical importance in treatment, leading to the paying of less attention to the element of strain and more to the treatment of foci of infection."

In considering the effect of focal infections on the nervous system, King¹² calls attention to the association of definite neurologic entities such as chorea, multiple neuritis and sclerosis, dementia praecox as well as various neuralgic conditions, with recognized focal infections. He refers to the work of Bayard Holmes, who by systematic irrigation of the colon, has instituted recoveries in mental cases. Dyas in the same symposium¹³ reminds us that it does not necessarily follow that no infection exists in the commonly infected sites, simply because one or repeated examinations fails to disclose such for "at times it is not possible to discover the lesion even with repeated examinations and every laboratory aid." Further explaining the ease with which one may overlook infections of a certain nature, he states that "the organisms which produce chronic pathologic states are non-virile, hard to cultivate, stain poorly and are not readily recognized under the microscope" and calls special attention to the pale enemy, *spirochaeta pallida* having these same characteristics and often lying dormant in the tissues with

long periods of freedom from any symptoms of disease.

One marvels at the power of the organism to maintain health at all in the presence of innumerable possible atria of infection. Weld¹⁴ believes that absorption from the kidney pelvis indicates that the kidney may be a focus of infection. Mayo¹⁷ refers to what were thought to be authentic cases of Bright's disease "recovering from the nephritic disturbance after operative cure of foci of infection in teeth, tonsils, gall-bladder, duodenal ulcer, etc." Reed of Cincinnati¹⁸ lays great stress upon the incidence of splanchnoptosis in insane and epileptics and to the presence of infective foci in both. He states that "these foci or some of them, wherever located, are antecedent to the convulsive, psychotic or other toxic phenomena. * * * The removal of the cause has resulted in the subsidence of the effect—or in other words, the cure of the patients." Draper of New York has done more than other surgeons along these lines and reports that¹⁹ psychotic individuals have repeatedly been immensely improved physically as well as mentally by surgical removal of portions of congenitally misshaped and deformed bowel with the removal of the focus of infection in the bowel structure itself. This is aside from any benefit accruing from the restoration of bowel function. Dysmenorrhoea when intractable or visibly affecting the health of the female, may simulate a neurosis and be so labeled for no other reason than the monthly time of stress. Yet Einstein and Hollis quoted by Novak²⁰ claim that such dysmenorrhoea (occurring in the tuberculous) is the direct result of a general intoxication of the organism with the toxins elaborated by the tubercle bacilli. If such be true, why not of the toxins of any other pathogenic germ invading the organism? Novak for instance quotes Rosenstrauss of Berlin recording thirteen cases of menorrhagia in whom no pelvic lesion was found, all giving positive Wassermann blood reactions. Another rare condition²¹ none the less proving the point, is the so-called menstrual arthritis where the menstruating uterus gives rise to actual joint infection—the organisms being found in the blood stream, disappearing and recurring with the cessation and appearance of the flow. The tubes, ovaries and the uterine cervix following puerperal trauma, may harbour serious infection, sufficing to set up a neurasthenic state. In the male, the seminal vesicles and prostate may be the seat of masked infection.

One must admit that the pendulum of professional tendency toward radicalism in the extrac-

tion of infected—even suspected—teeth, having swung far, will now swing far to the other extreme of conservatism. Teeth and tonsils have undoubtedly been sacrificed to no avail in many, many instances: but how incredibly greater in number must be the instances where infective foci have been left to undermine the individual's health. Infected teeth may show so slight radiographic evidence that they escape any but expert detection. Small granulomata easily escaping detection have been shown to contain virulent streptococci, introduced or made possible through improperly filled root canals. Dentists contend that a vital tooth cannot be infected or abscessed though through hematogenous or lymphogenous origin, there may become a focus at the end of a root in the pulp tissue. Grives quoted by O'Hara²² admits that "7 per cent of all root canal filling is imperfect: 41.5 per cent of these teeth are apically diseased." Gilmer of Chicago calls attention to the possibly frequent cause of failure to effect a clinical cure of systemic disease following the removal of dental sepsis in the remaining, possibly undiscovered, original focus elsewhere.

After all the evidence is in and despite dissenting voices, one has a well defined conviction that localized infections do play an important part in the production of disease. Langstroth²³ in a study of the relation of focal infection to chronic disease reported "thus a chronic focal infection was demonstrated in thirteen cases (ulcer of the stomach or duodenum) or nearly 50 per cent and very probable in an additional 40 per cent" now (personal communication) minimizes the import of these findings and states that his present conclusions "from the facts which are as stated" would rather be that "the focal infection and the disease for which the patient requires treatment both arise from a lowered resistance and that eliminating the focus is simply one step in increasing the patient's general resistance." Ross in *Oxford Medicine*²⁵ refutes the idea stating "it may be pointed out that true infections, true exhausting disease, like Addison's disease, phthisis or pernicious anemia, true dyspepsias like gastric ulcer and cancer, real nose diseases and refractions of magnitude, cause no collection of symptoms in the least resembling those described and therefore it is unlikely that such cause can have anything to do with the pathology of neurasthenia." Such clear cut conclusions about so complex a matter smack of ex-cathedra utterance and are not convincing. One would prefer to maintain an open mind even while constrained to hesitate to accept the evidence presented by such enthusiasts

as Cotton as assurance that he can do as much for all his neurasthenic patients. As stated, at the meeting of the American Psychiatric Society even those who frankly doubted Cotton's findings, agreed that his investigations warrant that the fundamental facts of the relation of focal infection and psychotic states be most rigidly and widely investigated.

Case Report—W. M., thirty-six, complained of weakness and prolonged symptoms following influenza in 1920. Later consultation for various minor complaints but always accompanied by some indefinite gastrointestinal disorder. Six years previously there had been a more definite stomach disorder but no food or alkali relief nor relation to time of eating. Late in 1921 there was an acute spell of intestinal trouble, pain, bloating, marked bodily weakness and finally seeming to localize in the right lower quadrant (perhaps because of a flux of his fellow townsmen for appendicitis operations). Reassurance from his physician was not convincing so he was referred to a surgeon who thought appendectomy indicated in view of a 14,000 white blood count. Great abdominal distension and nervous distress were prominent features of his hospital stay and continued unabated at home. He changed physicians for a time and was told his liver was to blame. As the months wore on, certain symptoms were added: numbness and weakness in lower limbs, burning of the eyes, belching of enormous amounts of tasteless gas, burning in rectum, palpitation of the heart and he lost twenty-five pounds weight and from sleepless nights and weary days, became a chronic invalid in a year's time. He was treated dietetically, along psychotherapeutic lines, nursed, sent on vacations, all to no avail. There was not one of the usual subjective signs of ulcer though such was suspected and x-ray studies made which failed to reveal its presence. He did not do well on alkalies and as time wore on he grew worse constantly, he was sent to a well known clinic for observation, where besides a duodenal ulcer, other definite pathology was found, e.g., tonsils and teeth septic. He was advised to have the ulcer excised but fearing his strength was insufficient to stand operation, he returned home to suffer for another month with most marked neurotic and various gastrointestinal symptoms and parasthesia of limbs greatly resembling that of pernicious anemia. After telling numerous friends he would probably never survive, he finally returned for operation which was performed by skillful surgeons who found and excised a duodenal ulcer and removed the gall-bladder for a definite cholecystitis. Despite good recovery from the operation (quoting the surgeon) "he started to cough and died from pneumonia about the third day." He had also told his attending surgeon he was going to get pneumonia and die so every precaution known to a first class hospital had been taken to prevent such a complication.

Here we have a case of nervous collapse which

may well be attributed to masked infection finally unmasked but too late to save its victim from its ravages.

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A SURGICAL STUDY OF GASTRO-DUODENAL ULCER*

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Surgical interference in these lesions is becoming restricted to more definite indications. A surgeon's services presumes a non-response to thorough, adequate Sippy treatment, or implies that the patient is the victim of one of the fulfilling complications, or of chronic invalidism of one of the other surgical types. Internists, and surgeons mutually feel a sixth-sense of responsibility, and limitation. Their relations cemented by a spirit of service for the patient are becoming ideally cooperative. In the crucible of clinical experience we are burning the husks of personal

pettiness, thereby eliminating much surgical and medical tinkering. Borderline consultations and group medicine are helpful factors.

Too often our efforts are handicapped by non-cooperation of the patient, due to his ignorance or bigotry. Self inflicted martyrdom challenges a tolerant, and sympathetic leadership, and until this is a reality, prophylaxis is a myth! The general public resents paternalism, and most people don't want to know what's good for them, especially if it be a free-will offering from their medical brethren. Social evolution will remedy this; but in the meantime we must aspire to a higher salesmanship.

Surgical indications in these ulcers may be relative, absolute, prophylactic, and rarely exploratory. The personal equation is often a determining factor and sometimes as intangible as the fourth dimension. What kind of ulcer has this patient? What kind of a patient does this ulcer have? Different hosts entertain differently.

Neuropaths present gastric symptoms simulating ulcer, and have a persistent tenderness over the solar plexus, and Lyon¹ considers this sign infallible. He ignores the fact that painful ulcer, and neuropathy often co-exist. Such patients justly lose confidence! They eventually realize that neurosis is not the only cause of their suffering; but that there is a serious anatomical lesion. Every persistent epigastralgia necessitates elimination of ulcer. Cumston² lays great stress upon this. Pottengers³ studies of the gastro-visceromotor, and viscerosensory reflexes, the vagotonias, sympatheticatonias and parasympathetic syndromes are clinically illuminating, but functional, and reflex gastric symptoms are not within the scope of this paper.

Is there any such misunderstanding of the Sippy treatment for ulcer as there once was of the Ochsner treatment of appendicitis in its indications, and application? Successful treatment, most striking in acute ulcer reduces edema, spasm, hypermotility, and retention, and should always be essayed, with these exceptions:

Dr. Sippy⁴ recommends surgical interference in acute and chronic perforative ulcer, perigastric adhesions, secondary carcinoma, hour glass stomach, severe recurrent hemorrhages, pyloric organic obstruction of high grade. Surgery should not be deferred to the stage of atony, and decomposition when motility and gastric chemism are at zero. Judd⁵ states that such procrastination has deprived many from a cure. Barclay⁶ has demonstrated that the oblique muscles of the stomach carry the weight; the longitudinal and circular give tonus, and posture.

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Posterior gastroenterostomy is not merely for funnel drainage by gravitation. Tonus is essential for the success of the stoma and atony must be avoided. Belated surgery is poor surgery. The patient has retrograded from risk I to a risk IV, and a radical plastic has to supplant a simple gastroenterostomy. W. J. Mayo⁷ states that gastroenterostomy alone cures 90 per cent of duodenal ulcers, and a small per cent of gastric biliary-pancreatic reflex via the stoma, reduces hyperacidity as proven by Paterson.⁸

Boldygreff⁹ finds autoalkalinization by duodenal anti-peristalsis. The seasoned surgeon values proper ante, and post-operative medical management. The patient's strength, and nervous equilibrium must be restored. The local condition is just one item in the program that tends toward perfection.

Diagnosis should be based on a clinical foundation, and a physical diagnosis should always be made first. The laboratories give color to the picture. If this is reversed mistaken diagnosis will strike a peak. Perfunctory practice, lethargic encephalitis of his clinical conscience, are the baneful lapses that will precipitate the surgeon from the position of a real clinician to that of an imaginary traffic officer. Should we not be able to interpret the various negative, and positive laboratory reports in proper correlation with the clinical findings in which a comprehensive history also is to be weighed? Especially in atypical cases. Differential diagnosis, and diagnoses are excluded from this paper, but as an initial symptom a persistent fullness in epigastrium relieved by food, drink, alkali or belching should be viewed with suspicion. Clinical astuteness, and observation should keep abreast with the research laboratories.

Katzensteins¹⁰ table of etiology is simple, and comprehensive. Principal causes, gastric hyperactivity. Secondary; localized circulatory disturbances, blood changes, lesions of bacterial origin, interstitial gastritis, toxemic necrobiosis, and trauma. Infective foci have more to do with chronicity than with causation. In duodenal ulcer, the seasonal changes point more to infection; but the soil is more important than the seed. Duodenal ulcer associated with a kinking mesocolic fold was found by Sloan¹¹ in fifty instances.

Trophic ulcer, based on neuropathology is possible. Mann and Williamson¹² of the Mayo Clinic recently succeeded in producing chronic jejunal ulcer in dogs by duodenectomy, and transplantation of bile, and pancreatic ducts to terminal ileum, thereby short circuiting the natural alkali

producing organs, and establishing a relative hyperacidity.

Round ulcer produces marked tissue changes, and adhesions, occasionally penetrating the liver and pancreas. Sub-phrenic abscess, on the right, from pyloric, and on the left from lesser curvature perforations occur, likewise pneumo-pyothorax. Ziegler¹³ observed final penetration of the heart, after tunneling diaphragm and pericardium. Perforation of the anterior wall is more serious on account of scarcity of adhesions. Overwhelming hemorrhage may come from a small artery if it is imbedded in a callus. Erosion may attack the lateral wall of an artery, and if this is only partially digested a miliary aneurysm develops, and on rupture causes hemorrhage. In duodenal ulcer craters are not found frequently except on posterior wall, and the Mayo Clinic records show four duodenal, to one gastric ulcer, and three in men to one in women. Gastric ulcer, is more serious on account of more depression, greater tendency to malignancy, perforation, and hemorrhage. The sentinel gland of Lund on the lesser curvative is often present. Rarely trans-gastric incision is necessary to locate the ulcer.

A symptomatic grouping as formulated by Achard¹⁴ is as follows: Typical, acute and chronic ulcer; hemorrhagic; fulminating, controlled, and occult; gastralgic, ulcer with cachexia, ulcer with predominance of vomiting. Perforative ulcer, acute and chronic; and latent ulcer. In acute ulcer with copious hemorrhage surgery is rarely indicated, but if so, a poor risk may be a fair one by a properly timed transfusion, and coagulating sera. Surgery is rarely done to ligate the vessel, but to attack the ulcer or complications. Gastroenterostomy alone will stop hemorrhage, but an interval operation is best. Perforation is often preceded by hemorrhage. The cautery Balfour operation with infolding, and overlapping of omentum is gaining well merited popularity. Sometimes a sero-muscular flap can be used, merely burning through other coats. W. J. Mayo¹⁵ states that resection is more indicated in gastric than in duodenal ulcer, and is greater in extent, and may include nearly all of lesser curvature. In small ulcers along the lesser curvature which compose 75 per cent, conservative cautery Balfour with posterior gastroenterostomy is successful in 90 per cent of the cases. For extensive pyloric ulcer, Billroth II is best. The Billroth I, Polya, and Balfour-Polya have their indications. The condition of patient, and local findings often determine. In failure after conservative operation, partial gastrectomy is indicated.

Funsterer¹⁶ has become very partial to resection under local. Von Harberer¹⁷ considers resection an insurance against jejunal ulcer, and condemns pyloric exclusion as inviting it. Babcock¹⁸ finds many technical modifications are appearing; but partial gastrectomy of Billroth enlarging pylorus of Heinicke-Mikulicz and Kocher, gastroenterostomy of Woelffler and von Haecker and Roux remain basal procedures. More attention should be paid to cecum mobile, dilated, kinked, or mobile duodenum, ileo-pyloric reflex, and reflex from chronic thoracic disease, to avoid meddlesome surgery.

In gastrojejunostomy the absorbable suture method with short loop, is almost universal, but Wilensky¹⁹ in a recent article favors the Murphy Button. It renders service in the Billroth II, and in poor risk emergencies. Moynihan²⁰ is very conservative in indications for pyloric exclusion. Finney²¹ has recently modified his classic pyloroplasty by removing a large wedge ulcer bearing area from posterior wall of the duodenum and stomach. Coffey²² favors a no clamp operation, claiming the traumatism causes jejunal ulcer, but Judd²³ has seen many such lesions when no clamp was used, finding one ten centimeters distant. Dott²⁴ of Edinburgh uses a small finely adjusted clamp sustaining equal pressure. Wooden tongue depressors with rubber bands may be used, but the Roosevelt heavy three blade clamp is the best. Surgical failures may be due to non-recognition of cause of symptoms. The obvious may not be real. Failure to apply the proper technique to the pathology found. Too short or too long a loop. This may be due to inexperience, or to impossibility of using indicated technique on account of conditions local, or general, and to belated interference. Prejudice for, or against certain procedures. Improper post-operative regime. The stoma should be at lowest point, and as near pylorus as possible, and have proper direction. Mucosa should be coaptated, but plus tensions of sutures must be avoided. Anchor sutures are important, and dexterity is paramount. Lastly Dr. Mayo's Hibernicism, "Failures due to operations for ulcer, when no ulcer is present," but he emphatically advocates the relative indication of surgical procedure from an economic standpoint for those unable to undergo continued medical treatment.

Some of the most interesting observations in my personal experience were some very calious deforming ulcers, with a rather short history. Two recurrent hemorrhagic, one of which presented only a three months' history. Three acute perforative, two of which were done under local.

In two, the obliteration of hepatic dullness due to pneumo-peritoneum was demonstrated. One case of multiple ulcer in a female patient of forty-two gave a definite history of the shortening of pain from one hour to a half hour, the more recent ulcer being nearer the cardia.

I herewith present an abstract of the salient positive points only, of gastric syphilis under my observation:

A female, age thirty-four, who complained of nausea, belching, vomiting first food, and then blood copiously, and melena. Two weeks before observation she had considerable pain radiating across epigastrium. She had gastric symptoms for three years, and lost fifteen pounds in weight in the previous six months. She had marked metorrhagia, intermittently for two years. Her physician found a fibroid tumor of the uterus. The patient looked haggard and distressed. Teeth, throat, chest, negative, except weak cardiac sounds. The abdomen was somewhat retracted, and skin very loose and dry. Right knee reflex was very sluggish. Just above the umbilicus, and to the right could be felt a firm, somewhat irregular tender freely movable mass. A few inguinal, and occipital glands were found. Hb. was 55 and Rbc. 3,100,000, Wh 12,600

Syst. B. P.	90
Diast.	55

Comb. H. C. L. 22, Free H. C. L. absent. B. W. was 4 plus.

On first examination I was quite convinced that this was a scirrhus cancer; but on account of the age, lues was suspected. Personal and family history was negative. B. W. was taken the second time and 4 plus was confirmed. X-ray screen showed considerable hypermotility in pars media, but it stopped abruptly at antrum and pylorus. In manipulating this area, the patient became somewhat faint. Film showed very large filling defect of pylorus and antrum. She was put on injections inunctions, K. I. and 914. The patient's local and general condition improved for six weeks, when the metorrhagia recurred, but responded to ergot and x-radiations in seven weeks. She failed very rapidly, and a pyloric stenosis developed with retention, and atony. Emesis of the smallest amount of food and water was very persistent. Abdomen became retracted, and visible peristaltic waves across epigastrium were very marked. The pyloric mass was smaller, but more firm, and the peristaltic waves would displace it from a lower to a higher level. X-ray film showed almost complete retention at twenty-four hours. With ail of this absorption in the gastric lesion the B. W. remained 4 plus. Treatment was continued, and while trying to prepare her as a fair surgical risk she suddenly developed an acute dilatation of the heart, which was terminal. Inanition was marked. There were no clinical, or x-ray findings, as to aortitis.

Post mortem, demonstrated the mass, firm and contracted. All other viscera appeared negative,

there was a typical leather bottle reaction of the rest of the stomach. A fibroid of the right fundus of uterus was found.

Dr. F. H. Lamb and Dr. Warthins microscopical report is as follows: "A chronic interstitial inflammation which is vascular and showing great number of plasma cells in the connective tissue, the mucosa, throughout the muscularis and subserosa. In this new formed tissue there are numerous blood vessels showing the characteristic syphilitic obliteration described by Warthin. Dr. Warthin states that this is undoubtedly, an advanced syphilis of the pylorus in a later stage. Fourteen sections have been examined for spirochetes, but none were found. The histologic changes, nevertheless are those of syphilis."

Carmen²⁵ considers as characteristic, the following; filling defect, but as a rule inability to palpate the mass; shrinkage of capacity, stiffening of gastric wall, absence of peristalsis in involved area, pyloric gaping, hour glass stomach, with lower loculus, tubular. Usually patient is under the cancer age, and not ill in proportion to the lesion. In 1918, Eustermann²⁶ reported forty cases from Mayo clinic, and later twenty-five more, one of which was a circumscribed ulcer. About 30 per cent came to operation. He gives criteria of diagnosis as: 1—Positive B. W. 2—Evidence of syphilis elsewhere in the body. 3—Demonstration of a lesion in the stomach. 4—Improvement from treatment. There is no characteristic symptom, but in the main scirrhus cancer is suspected. There is no response to ordinary ulcer treatment. The clinical course is progressive, and gastric symptoms are usually of two years' duration. The pathologic types, are: luetic gastritis, localized ulcer, gummatoid formations of an inflammatory nature.

Stokes and Brown²⁷ analyzing two hundred cases of syphilis with gastric symptoms, found gastric syphilis in 4 per cent, and states that "gastric neurosis," and "functional stomach" are dangerous diagnoses, if any suggestion of syphilis is present. Seventy per cent of patients with negative B. W. had positive spinal fluid. The two unusual features in this patient were, a very palpable pyloric mass at all times, but considerable reduction under treatment, and the marked hematemesis, and melena.

In conclusion, as to the surgical interference in chronic peptic ulcer, non-responsive to treatment, we must develop our resourcefulness to the greatest degree. I would not make a brief for posterior gastroenterostomy, but a plea for properly timed surgery, with minutest, painful attention to detail, under the auspices of the shockless operation, be it a resection, pyloroplasty, pylorotomy, or gastroduodenostomy. Seventy per cent of ul-

cers are duodenal, and sixty-five per cent of gastric, are pyloric. Therefore internists, and surgeons are accountable if their patients do not have the benefit of a simple gastroenterostomy when indicated. Should there not be a clinical renaissance?

The signs point that way, and the stage is set for it. Clinical medicine, and surgery should be rehabilitated in their positions as moving forces. Is it not the privileged duty of the clinician, and surgeon to break new ground with the research men? Haphazard hobbies, and rutty routines are pillows for the lazy! We should add our weight to the forces that make for progress. We should be tempered, but not discouraged by the fact that nescience is greater than science.

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Discussion

Dr. Charles J. Rowan, Iowa City—I find myself in agreement with Dr. Weber as to the important role which medical treatment should play in cases of gastroduodenal ulcer. I believe that most internists and surgeons are in agreement at the present time as to the importance of medical treatment. The important thing for us to do is to steer a middle course between the extremists who on the one side say that all cases of gastroduodenal ulcer are surgical, and those who on the other side advocate only medical treatment. If a report similar to the one presented by Dr. W. J. Mayo at the last meeting of the American Surgical Association could be made by the ma-

jority of surgeons who are operating for these conditions, I believe that surgical treatment would be used in many more cases than it is at the present time. Dr. Mayo was able to state that at the Mayo clinic 95 per cent of the cases operated on for duodenal ulcer made a recovery, that is, a cure could be claimed, and that the mortality of these operations was less than 2 per cent. Moynihan recently reported that since 1914 he has not had a death as the result of operation in cases of duodenal ulcer, and that during this period he has operated on over 500 cases. If the majority of surgeons who are operating for these conditions can claim these results I do not believe there could be much question but that surgery should be used in the majority of cases and that medical treatment should play a minor role. But at the same meeting of the American Surgical Association last year Peck reported a series of eighty cases of gastroenterostomies for duodenal ulcer with a mortality of 11.1 per cent. He reported another series of 149 cases with a mortality of 10 per cent. These operations were done in the Roosevelt Hospital and by very competent surgeons. At the same meeting Scudder reported 171 operations for gastric ulcer done at the Massachusetts General Hospital, with a mortality of 7.6 per cent. In about half of these cases gastroenterostomy was the operation. He also reported 139 cases of duodenal ulcer which were operated, with a mortality of 6 per cent. Nearly all of these operations were gastroenterostomy plus infolding of the ulcer. At this meeting also Poole reported seventy cases, both gastric and duodenal, operated at the New York Hospital, with a mortality of 8.5 per cent. The point is this: In considering the result of operations we must not only pay attention to the very best results, but try to determine what is likely to be the mortality rate and the percentage of cures in the average case. Therefore in recommending gastroenterostomy it is not fair to tell the patient the mortality rate is less than 2 per cent. This is not the general rate, it is much higher than that. These mortality rates, as I have indicated, are reported by men who are very competent, operating in good hospitals and with very favorable surroundings. Therefore we must not overlook that there is this decided mortality rate after operation, which is not present, as the result of treatment at least, if we submit the patient to medical care. In regard to the type of operation, I believe that the general mortality rate will be somewhat increased if we attempt more than the simple gastroenterostomy. It is the tendency now to do more than a simple gastroenterostomy in an increasing number of these cases. I think more and more of them are being excised, or gastroenterostomy is done in addition to excision or resection, etc. Certainly the results should be better. But in no individual case are we able to tell the patient that we are doing more than a gastroenterostomy, because the conditions found may not warrant doing any more. For instance, Deaver believes very strongly in the operation of excision plus gastroenterostomy.

He thinks the results will be better, the number of cures greater. Deaver certainly is a most dextrous and fearless operator, but, in spite of the fact that he believes something more than a gastroenterostomy is indicated, he reports that he can do excision plus gastroenterostomy in only 45 per cent of cases. Therefore no matter how anxious we are to do gastroenterostomy we are not able to do it in the majority of cases. On the other hand, we know that there are many medical failures, and a case in which the patient who is under medical treatment develops a fatal complication such as hemorrhage, perforation, or malignancy, should be counted against the medical treatment just as operative mortality should count against the surgical treatment. However, I do not know of any series of cases reported by the internist over a number of years that would enable us to judge of the medical mortality so definitely as we are able to judge of the surgical mortality. Therefore I believe that the mortality accompanying operations for gastric ulcer cannot be charged to surgery unless we also charge up the fatal results that follow medical treatment to the internist. To sum up, I think it is still a wide question and that the middle ground is the right one. If we are careful in picking our cases, if there are no complications, if conditions are favorable for medical treatment, this should be the treatment of choice, and in the majority of cases I believe we will find it is a wise choice. At the same time any bad results following medical treatment may not be the fault of the treatment, but of the doctor who is using that treatment. The result is due to using it in the wrong case or not applying it properly. It is a much bigger thing to know just what case should be treated medically in gastroduodenal ulcers and in hyperthyroidism, than it is to apply the treatment. Treatment should be a very simple thing. Unfortunately details are not properly attended to, and I feel that in a very large percentage of the cases that are now under the so-called Sippy treatment, Sippy should not be blamed for the results of treatment, in that not enough attention is given to the details. Another factor tending to failure in the Sippy treatment is that it is carried to extremes. That is, it is determined to treat a certain patient medically, and the treatment is persisted in long after the fact should be realized that in this particular case the result is not going to be obtained and that therefore medical treatment should be given up. Another point which I feel is important is that in those cases where surgery is used we should still realize the importance of combining medical treatment with it; that is, medical treatment should be used after surgery. I feel that a considerable number of the failures of operation for gastric and duodenal ulcer are due to the fact that the patient is not warned that he still has his ulcer if simply a gastroenterostomy is done, or, if the ulcer has been excised, that an abnormal condition is still present. It may be a scar, but whatever it is the condition is not normal, and if an ulcer is present the patient must do his part. The

surgeon has done his part in making the conditions more favorable for recovery, but the patient should be warned that he must give careful attention to diet. I believe that following operation in these cases the patient should be put on medical treatment for a period of at least six months.

Dr. Walter L. Bierring, Des Moines—This discussion seems to be largely surgical with little chance for the internist. But I am sure that the remarks of Dr. Rowan strike a sympathetic cord with every one of us, in considering gastroduodenal ulcer as a borderline condition wherein there are certain cases in which the medical treatment is distinctly indicated, whereas there are complications which occur, naturally more frequent in the chronic form, that are distinctly surgical. Whenever there is a distinct mechanical disturbance in the filling and emptying of the stomach, as adhesions or scars, surgical intervention is indicated. However, that the condition of ulcer may persist after the stenosis has been relieved is one of the prominent factors to be considered, and therefore some of the best results are obtained through the cooperation of surgical and medical treatment in the postoperative care. It should be remembered that in all ulcer conditions we are dealing, to a certain extent at least, with an infectious process. Whether we may regard that as the true etiology or not, these conditions occur in a seasonal way, they have a tendency to recur, and therefore patients with ulcer should be kept under observation for a long time. The best results from the Sippy treatment are obtained when the treatment is persisted in over a long time and the patient is kept under close observation. The essayist referred to the economic value of surgical treatment, particularly in chronic duodenal ulcer in the case of the working man, the man who is not able to undergo a long period of strict medical supervision and treatment. In such instances, where symptoms of stenosis occur or any disturbance in the mechanical functions of the stomach takes place, a gastroenterostomy will often bring the man back to working capacity in a short time, giving to him an opportunity which he never could have had under prolonged medical treatment. So it seems that here again we are dealing with a condition that is at one time medical and at another distinctly surgical, and on one side or the other we can never expect a miracle to be performed. It is only by close observation, attention to details, and constant conference with our surgical colleagues, that the best results are obtained.

Dr. Weber—There is no question that Dr. Bierring's remarks relative to the border-line status of the gastroduodenal ulcer problem are very timely, and should be a universal code of practice. Medicine and surgery—not medicine or surgery, are good practical precepts. The perfect function of the stomach depends greatly upon the maintenance of the normal balance between the vagus, and the sympathetics. The vagus has three nuclei in the medulla.

One motor unit is somatic to voluntary muscles of the larynx and pharynx. The second motor unit innervates the thoracic and enteric system as far as the ileo-cecal valve. The sensory fibers run parallel, to their respective sensory nucleus. When vagus action is in the preponderance, we have vagotonia, whereas in the opposite extreme is found sympatheticotonia. In the parasympathetic reflex of bradycardia due to local gastric irritation the afferent impulse is via the sensory fibers of the vagus and efferent, through its cardiac branches. In the gastric-visceromotor reflex as found in upper portion of the rectus the impulses start through the sensory branches of the sympathetic to the superior semilunar ganglion. Then relayed through the afferent sensory fibers of the rami communicantis from the fifth to the ninth dorsal, and through their efferent fibers to the muscle area and is manifest in local spasm. Do we not sometimes in a snapshot perfunctory way too quickly diagnose neurosis? Look for an organic basis. The most important function of the stomach is motility. We can vegetate without its secretions, and its absorptive power is nil except as to spirits. It seems to be a moot question as to what is the greatest factor in the chronicity of ulcer. Is it hyperacidity, or hypermotility, or sometimes focal infection? It seems strange that in conditions of continual hyperacidity that there are not more cases of gastric ulcer. Ulcer also exists where there is no acid, for instance, in the esophagus. In the chronic types, the best results seem assured by properly timed surgery, as it provides drainage, stimulates tonus, produces auto-alkalinization. Heroic doses of alkali as used by some in medical management has precipitated some very alarming crises of alkaline toxicosis, often unrecognized as such. In duodenal ulcer hematemesis is rare, but macroscopic or occult blood may be found in the stools. In gastric ulcer there are periods of hemostasis. A few days or weeks with a little leak and a like interval, no leak. In malignancies there will be a constant ooze. A delicate occult blood test is found in the use of ten drops of aqua ammonia in 200 c.c. of water via stomach tube. Then withdraw 30-50 c.c. only for occult gastric blood test. Then give patient a tablespoonful of powdered charcoal for test of feces. The bugbear of both internist and surgeon are those cases of ulcer without retention. Here is a field for research. The junior surgeons should be encouraged in this work, and should know indications in gastric ulcer and be up on technic. "The throne to him who forces destiny." There are good schools of surgical technic, and experimental material is always available. The foundation of the work of the internists and the surgeons is a correct diagnosis. A complete diagnosis is the sum of four partial diagnoses. The clinical, based on characteristic features of a clinical type of case. The lesional, or pathologic, the seat of the lesion. The functional or physiologic, dealing with the manner of production of the disturbances observed. The casual, dealing with specific etiology.

PRACTICAL CONSIDERATIONS OF THE DANGERS ASSOCIATED WITH SURGERY OF THE THYROID*

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In the past it has been customary to group all operative statistics under the general term "goiter operations," which is misleading, in that it does not give an accurate idea of the varying risks associated with the different types of goiter. With regard to the surgical risk, all lesions of the thyroid may be divided into two groups, goiters unassociated with hyperthyroidism, and goiters associated with hyperthyroidism. The operative risks in the two groups are not comparable. In the former the dangers are confined to the accidental causes to which any operation of equal magnitude is subject, while in the latter the greatest danger lies in the disease itself, or the residual effects of the disease. Even a minor operative procedure may induce a hyperthyroid crisis, resulting in death of the patient, whereas a technically formidable operation, such as the removal of a large intrathoracic goiter unassociated with hyperthyroidism, may be followed by no reaction whatever. In order, then, to evaluate accurately statistics on operations for goiter, the proportion of goiters without hyperthyroidism included in the computation must be known.

The removal of goiters unassociated with hyperthyroidism, such as adenomas, (colloid, and malignant), is attended by the dangers of operative and post-operative accidents only. With the standardized operation of today, by care in details, hemorrhage, tetany, air embolism, myxedema and infections have been practically eliminated. In the Clinic the incidence of post-operative obstructive dyspnea and pneumonia have been materially decreased, since it has been appreciated that both are at least partially avoidable. In the past the causes of post-operative obstructive dyspnea were believed to be confined to collapse of the trachea and edema of the glottis, both unavoidable complications, but in recent years a clearer recognition of the important part played by the injury of the recurrent laryngeal nerve has led the surgeon to exercise more care in its avoidance; in consequence, post-operative obstructive dyspnea is rare. Likewise the incidence of post-operative pulmonary infection has been materially reduced by the avoidance of prolonged anesthesia and of injury to the recurrent laryngeal nerve. The operative mortality in this group is less than 0.25 per cent.

The goiters associated with hyperthyroidism include exophthalmic goiter and adenomatous goiter with hyperthyroidism. The added surgical risk in each type of goiter is due to the same two factors, the development of an acute hyperthyroidism, and the presence of visceral degeneration. But there is a decided difference in the operative mortality; that of exophthalmic goiter has been reduced to 1.0 per cent by case, while that of adenomatous goiter with hyperthyroidism is between 3 and 4 per cent. In order to understand the reason for this difference in the mortality, it is necessary to discuss the two types of goiter separately.

Exophthalmic Goiter—In searching for the reasons for the reduction of the surgical mortality rate in cases of exophthalmic goiter, two facts stand out prominently. First, the patient is coming to surgery earlier in the course of the disease, before the occurrence of visceral degenerative changes. This is strikingly illustrated by a comparison of the data for different periods, relative to the duration of hyperthyroidism. In 1909 the average duration of hyperthyroidism in the series of patients with exophthalmic goiter was thirty-one months; in 1916, twenty-three months, and for the first six months of 1922, nineteen months. Thus one of the causes of the relatively high mortality rate of exophthalmic goiter in the past has been partially eliminated by the patient himself. Second, the incidence of acute hyperthyroidism, has been reduced by the employment of preventive measures. As the intensity of hyperthyroidism in patients with exophthalmic goiter fluctuates, a period of exacerbation often being followed spontaneously by a period of remission of symptoms, it was early recognized that the operative risk was greatest during certain phases of the cycle, that is, during or near a crisis. Accordingly, it was seen that major operative procedures should be avoided during these phases, and that minor or preliminary procedures, such as ligation of the thyroid arteries and injection of boiling water into the gland, should be substituted. Further, it has been learned that the course of the disease can often be influenced by such non-surgical measures as rest, adequate supply of food and fluids and administration of iodine. Thus, by the employment of medical and surgical preparatory measures, and by an accurate check on the course of the disease by means of repeated estimations of the metabolic rate, the danger of post-operative reactions has been reduced to a minimum.

To reduce the mortality, in the management of patients with adenomatous goiter with hyperthyroidism, the treatment must be directed along en-

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tirely different lines. The cases of this group might be called the "procrastination cases," that is, in most instances the patients do not seek medical relief until the disease has progressed to a stage in which vital structures have been damaged, often beyond repair. We are all familiar with the patient who has had a nodular goiter for many years, but does not seek medical relief, unless by chance the goiter causes choking or marked disfigurement. On an average of fifteen years after the appearance of the goiter, hyperthyroidism develops, but the onset of the symptoms is so mild and insidious, that the patient often does not realize any change in her condition, and hence does not seek surgical relief, until there has developed evidence of visceral degeneration, with consequent high operative risk and diminished prospect for complete cure. Unlike exophthalmic goiter, the course of the disease is steadily progressive and, unfortunately, is not greatly influenced by preparatory surgical or medical measures. Obviously the operative risk is in direct ratio to the number of bad risk cases accepted for surgery. Therefore, the mode of attack to reduce the mortality and invalidism caused by this disease lies not in the further development of surgical technic or preparatory measures, but rather in the general education of the public. All nodular goiters should be removed soon after the onset, or the patient should be under periodical observation medically, in order that symptoms of hyperthyroidism may be detected early.

SUMMARY

The factors influencing the reduction of the mortality to 1 per cent in surgery of exophthalmic goiter are: (1) the patients are coming to operation earlier in the course of the disease, before the development of visceral degenerative changes; (2) by the combined medical and surgical preparatory management, the development of postoperative acute hyperthyroidism has been reduced to a minimum, and (3) clearer recognition of the dangers involved in the injury of the recurrent laryngeal nerve has led the surgeon to greater care in its avoidance.

There has not been a concurrent reduction in the mortality rate in surgery of adenomatous goiter with hyperthyroidism, owing to certain facts: (1) because of the insidious onset of hyperthyroidism, these patients come to surgery late after the development of visceral degenerative changes when the operative risk is high, and (2) surgical and medical preparatory measures are ineffectual. Obviously, then, to reduce the mortality in this group, it is essential that the patient be operated on early, before the development of

degenerative changes. Since often it is impossible for the patient to detect the beginning of hyperthyroidism in himself, we should urge all patients with symptomless nodular goiters who are not under close medical observation, to be operated on early, when the risk is less than one-fourth of 1 per cent.

SOME RECENT ADVANCES IN CHEMISTRY AS AIDS TO THE CLINICIAN*

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Advances in chemistry have been so numerous during the decade just passed, that it would be quite impossible in the time allotted to do more than catalogue them. Rather than do that, I have selected two general fields of work in which notable progress has been made: the factors concerned in the acid-base equilibrium of the body, and the study of metabolic rate.

Of these subjects none is of more fundamental importance, in health and disease, than the acid-base equilibrium of the body, the factors which maintain it, the disturbances which are associated with any changes in it, and the recognition of it.

Life is always producing acids. CO_2 results from the oxidation of C; H_2SO_4 and H_3PO_4 from the oxidation of S and P in the proteins and lipoids; while in this combustion intermediate organic acids appear. Few organisms however can survive an acid reaction within their cells, and in the higher animals there is no more certain method of destruction than the development of an acid reaction within the cells.

To digress for a moment in emphasis of this point, the war gases illustrate on a great scale the deadly effects of producing local tissue acidosis in some essential structure. Phosgene and chlorpicrin for example penetrate and hydrolyze in the cells of the alveoli, producing HCl . These cells liquify, disintegrate, die, and the animal as a whole succumbs because of this destruction of alveolar cells. "Mustard gas" penetrates the skin and enters the active epithelial cells of the dermal layer concentrating in the lipoids in which it is most soluble. There it is slowly hydrolyzed to HCl , the cells in time grow acid and as a result die, liquify, autolyze, and slough off. These gases are among the most toxic substances ever described—but they are toxic simply because they produce acidity within the cell. It must be clear then, that the living cell, if it continues to live, must secure protection not only against such for-

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eign acids but against the acids which it produces itself.

In all probability life started in the tidal waters of a warmer, less salty ocean than we have today. This ocean water was slightly alkaline from the leaching of the disintegrating rocks and was richer in calcium and carbonates than it is today. In such a faintly alkaline medium the acid-base equilibrium of the tiny masses of protoplasmic jelly could easily be maintained by direct diffusion. The small size of the early forms of life, the relatively great surface which they exposed and the enormous volume of ocean water about them was all that was necessary to prevent accumulation of acids within the cell.

With increasing association of cells into complex colonies, the sufficiency of the surrounding sea water in preventing cell acidosis in time reached its limits. Systems of circulation developed in some colonies which enabled them to survive and to develop new complexities. Finally so efficient a type of circulatory system developed that life was able to quit its ocean birthplace and adventure out upon dry land and even into the air. Aside from its increased efficiency as an oxygen carrier and in the transport of supplies, the human circulatory system is essentially like that of the primitive ocean water but with added factors which enormously increase its efficiency as an acid preventer. During normal life it easily suffices to keep the cells neutral. Even under the forced draught of violent and prolonged exertion and profound fatigue, of fevers, anesthesia, and starvation, it is able to take care of the excessive amount of acids produced without itself growing acid. This is essential however, for should the blood become even slightly acid, the equilibrium is lost and death is inevitable.

The cause of death in tissue acidosis appears to be due to the fact that the proteins which make up the internal structure of every cell, become acid-proteins, imbibe water, swell, liquify, and digest. The structure of the cells is lost in this general breakdown to liquid; with loss of definite structure goes loss of order and direction of reactions and so loss of function and death. This general process we call autolysis and it may be set in motion at any time by an excess of even so weak an acid as carbonic.

Let us consider in more detail the factors which are involved in maintaining the acid-base balance of the body. The blood consists of a mixture of BHCO_3 , CO_2 , NaCl , acid and basic phosphates of Na and K, oxyhæmoglobin, free O, plasma proteins, urea, and ammonium salts. All these substances together constitute the buffer factors of

the blood. By a buffer in this connection we mean a substance into which acid may be poured without making the solution appreciably more acid in reaction.

The true acidity of a solution is its H ion concentration. This is susceptible of very exact measurement by the potentiometer—an electrical device which has been perfected during the last few years. Water is our standard of neutrality. It has a H ion concentration expressed by the figure 7.0. Any figure larger than 7 denotes an alkaline reaction; any figure smaller, an acid reaction—that is a solution dissociating more H ions than are found in pure water. The blood has a H ion concentration of about 7.4 on this basis and is therefore slightly alkaline. Its normal variation is within the range 7.3 to 7.5. If it ever reaches the level of acidity of pure water—that is a H ion concentration of 7.0—coma is the expected result. Such a high acidity as this may however be tolerated for a time. On the other hand if alkalinity increases to the figure 7.8 tetany is likely to result. Any wider divergence on this scale will mean quick disaster to the organism.

We may form some estimate of how narrow this range actually is perhaps by the following figures. If we take a liter of pure water and add 1 drop of 4 per cent NaOH we get the reaction of normal blood—7.3. If we add $1\frac{1}{2}$ drops we get 7.5; with 2 drops we reach 7.8 the alkaline danger line, and if we add a drop more, we have a medium so alkaline that were it blood it would be fatal. On the other hand, while the organism can just tolerate the acidity of distilled water, adding to a liter a drop of 3.6 per cent HCl gives us an acidity of 6.8; 2 drops give an acidity of 6.5 on our scale, in which a tissue cell will quickly go to pieces and which would kill were it the reaction of blood. But suppose we have present some buffer such as a phosphate mixture adjusted to the reaction of 7.4. It would be easy to make up such a mixture into which one might pour 100 times as much HCl of the strength used above, before the acidity would rise to that of distilled water 7.0 on our H ion scale. Into this same mixture we could pour a hundred times the fatal 2 drops of alkali before the alkalinity would reach the danger point of 7.8.

The blood has such an effective buffer value that we may pour many c.c. of 3.6 per cent HCl into a liter of it before its acidity rises to that of distilled water.

Into the blood we pour each day something like 900 liters of CO_2 , together with 20 to 100 c.c. of normal acids like H_2SO_4 and H_3PO_4 . No buffer system however perfect could long prevent

acidity under such conditions, were there no way of getting rid of the acids. The eliminative system, lungs, kidneys, and skin must therefore be intact and functioning or the blood and cells of the organism will very soon grow acid and perish in spite of its buffer system. The buffers of the blood constitute the first line of defense; the lungs and kidneys, and skin and intestinal tract the second supporting line, and the tissues themselves the final reserves.

Because our buffer solution will take up acid or alkali in considerable amount without itself becoming noticeably more acid or alkaline, it must not be assumed that it has not been profoundly altered. So long as the amount of acid or alkali poured into it does not exceed some definite figure it maintains its normal reaction of 7.3 to 7.5. But the shift in the buffer factors incident to taking care of acid may cause quite profound changes. Some of these we know fairly well to-day, as a result of recent work in this field.

Blood in the capillaries of an active tissue is receiving CO_2 . The ratio of CO_2 to BHCO_3 is on the increase, which means a reaction tending to grow acid. But the NaCl present dissociates, its Na ions from more NaHCO_3 , while the Cl ion, or HCl , diffuses into the red cells and combines there with hæmoglobin as a hæmoglobin hydrochloride. Now hæmoglobin in acid combination can bind less O than in alkali combination. It therefore dissociates some of its oxygen as the HCl enters the corpuscle, liberating it easily therefore in just the region where it is most required, where combustion is proceeding rapidly, oxygen being used up, and CO_2 produced. At the same time the ratio of acid phosphates to basic phosphates shifts in the acid direction (but without turning acid) and Na and K ions are made available for the production of more BHCO_3 . Furthermore the plasma proteins, which exist in the blood as metal proteins, give up some of their Na ions to the CO_2 and still more NaHCO_3 results. Thus in the capillaries we find a mobilization of metallic ions, chiefly Na and K , in proportion to the CO_2 diffusing in, which keeps the ratio of CO_2 to BHCO_3 a constant one; while at the same time oxygen is freely dissociated from the oxyhæmoglobin of the corpuscles, and diffuses into the tissues. This blood is now venous. It passes to the lungs where in close proximity to the outside air and its low CO_2 tension, the excess CO_2 blows off. As it blows off, Na ions are set free again and the reaction of the blood tends toward alkalinity. But the excess Na ions recombine with plasma proteins, and with the acid phosphates, while the easily dissociable Cl leaves the

red corpuscle to reform NaCl . At this point then we have hæmoglobin particularly available for combination with oxygen, in contact with an atmosphere rich in O , and oxyhæmoglobin is again produced. The blood is now arterial and the cycle begins again.

While this cycle is in process, acid phosphate is being excreted through the kidney together with acid sulfates, from the burning of S contained in the protein, and the acid salts of other unburned organic acids if any exist in the blood. The kidney thus excretes more acid than alkaline components, conserving to the body its necessary bases.

There is furthermore a reservoir of basic ions in the tissues themselves, and these diffuse out into blood and lymph the instant the relative proportions of materials in these fluids differ from the cells.

Still another active agent in blocking an acidotic change is ammonia. Ammonia is normally produced in the tissues incident to the combustion of the amino-acids coming in from the intestinal digestion of food proteins. The first step in this combustion is deamination—the knocking off of the amino group as NH_3 . The ammonia at once unites with CO_2 to form ammonium carbonate or carbamate, and particularly in the liver this is changed to the neutral, harmless compound urea. Not all the NH_3 however is converted to urea. A certain fraction of it is regularly diverted to partially neutralize the stronger acids normally produced in life, H_2SO_4 , H_3PO_4 , and the abnormal organic acids which may appear—Beta oxybutyric and diacetic acids, etc. About 90 per cent of the N excreted in the urine is urea nitrogen; about 3 per cent as ammonium salts. If however there is any uncompensated shift in the buffer factors toward an acidotic condition, more of the ammonia is diverted to neutralize or offset the shift and is excreted as ammonium-acid-salts, while urea correspondingly diminishes. Incident to an acidotic change in the buffer system ammonia N quite as complicated an acid-base mechanism as in the blood, but we know less about it. We do know however that where the acidotic tendency of a cell, or a tissue, or the body as a whole, is not may rise to 11 per cent while urea drops to 60 per cent. In the severe acidoses of diabetes the ratio may be much higher than this.

In the tissues themselves we probably have completely compensated by the buffer system in circulation and the organs of acid excretion, the tissues mobilize the final reserves to combat this tendency, and in so doing may make enormous material sacrifices. The tissues constitute the

last line of defense the body has against acidosis. The proteins in the cell are protein salts of the alkali metals. Any increased production of acid within the cell—even if it is only CO_2 in excess of what can diffuse out and be fixed in the blood stream—will tend to shift the phosphate mixture in the cell from basic to acid phosphate, and also to rob the cell proteins of their basic elements Na, K. If the process goes far enough the buffer capacity of the cell reaches its limits, and the reaction tends toward increasing acidity. The free proteins now digest under the action of the autolytic enzymes and amino-acids result as the proteins disappear. These amino-acids in turn furnish NH_3 to neutralize the acidity. The cells in the meantime are of course growing smaller. In a generalized acidotic condition, as in starvation, fever, severe acute diabetes, anæsthesia, etc., there is an increased NH_3 -urea ratio, and the NH_3 as well as the fuel may be all derived from autolyzing tissues.

Thus we have the wastage typical of prolonged conditions of this sort. As is to be expected, it is costly to throw in this last line of defense to maintain the acid-base balance of the body. Some organs like the liver, can lose heavily and not suffer seriously, returning to normal when the emergency is over. The muscles may rather slowly mobilize considerable protein reserve, but with it goes most of the contractile power of the muscle tissue as well. The excessive weakness following a few days of some acute infective process with high fever and loss of weight, is in part at least due to this mobilization of the available contractile protein of the muscles. The brain contributes little without loss of consciousness, which goes on rapidly to irreparable damage, unless the situation improves. Indeed when the acid-base balance is so far upset toward the acid side, as to reach the condition of coma, the factors of safety have just about been exhausted, the eliminative or the buffer system has broken down and dissolution is imminent. Only some strenuous and sudden change in the mechanism can reestablish the normal balance.

From this sketch of our present understanding of the mechanism which safeguards us from the acids we produce, it must be evident that the important point is to discover early any shifting of the acid-base equilibrium in the direction of acidity.

The severe acidoses are diagnosed easily enough where the acetone bodies appear in the urine to indicate that condition. But we have not yet the simple satisfactory single test which shows the acidotic tendency well in advance of the severe

or critical condition. I am confident we shall soon have such a test and that it will open up this field to the clinician and lead to great strides in advance in both diagnosis and therapy. The journals are full of contributions in this field, which shows that chemists and clinicians both are focusing their attention on it, and the problem will be solved. In the meantime there are a number of methods which give some help.

A study of the acid— NH_3 —urea ratios in the urine is probably one of the best guides we have today in detecting an acidotic tendency. Urea and ammonia may both be determined rapidly and accurately. It is not however reliable in all cases.

The method of Van Slyke is to determine the alkali reserve of blood, that is, the bicarbonate content. Blood is drawn from a vein, saturated with CO_2 of average alveolar concentration and then introduced into the Van Slyke apparatus, where the CO_2 is liberated and measured. This gives very exact information concerning the amount of NaHCO_3 in the blood. But this one factor alone is not sufficient to inform us definitely of what the situation is in the buffer system.

Information on this same quantity may also be obtained by securing alveolar air by a simple procedure and bubbling it into a phosphate buffer mixture containing an indicator. The concentration of CO_2 in the alveolar air will determine the acidity of the mixture through which it is passed, and the indicator is matched against a standard series of color tubes made up of definite H ion values. Here again, while the information may be valuable, it is incomplete and alone difficult of interpretation.

Still another method in use, is to determine the alkali tolerance of an individual. This has much to recommend it. Bicarbonate is fed in 5 gm. doses at intervals of thirty minutes till the urine becomes neutral. The amount of bicarbonate required to reach this point is indicative of the degree to which the bases of the body have been depleted. While this method appears reliable in establishing the absence of acidosis it is not always considered so when acidosis is present. This is because in acidosis the ability of the kidney to excrete alkali is apparently impaired.

Two methods are in use for determining the H ion concentration of the blood directly. In the method of Rowntree this is determined by an indicator. The method is fairly accurate, and gives information as to whether the acidotic shift has gone so far as to alter the H ion concentration of the blood. This is of course of the greatest importance, but it discloses the advanced rather than the early condition.

The most accurate method is by the use of the potentiometer. The apparatus however is complicated, delicate in its adjustments, and requires a high degree of skill and training to operate. It can hardly be expected to take its place in many laboratories, and in its present form is hardly available for clinical use except in extraordinarily well equipped and manned institutions for research. So far, the results of the highly accurate figures obtained by this instrument establish more firmly the fact that the H ion concentration of the blood is wonderfully constant, and that an acidotic shift in equilibrium may proceed a long way before any significant change of H ion results.

Another notable advance has been made during this decade in our knowledge of metabolic rate and the light which it may throw on certain metabolic disturbances. Basal metabolism may be defined as the metabolism of the human engine when running idle. It is measured by the O used by the body in a given period of time. The developments in this field for the clinician are the outgrowth and culmination of researches carried on by a host of students of metabolism—Voit, Rubner, Attwater, Benedict, Lusk and Dubois, are some of the names most associated with this work. It has been a gigantic task. It has gone on for a generation or more, and only recently have the results of the complicated calorimeter-chamber studies of Benedict and others made possible the simple bedside technique which is today becoming so rapidly popular in well equipped hospitals and clinics. Because of this popularity and the publicity the method is getting in the journals, the fundamentals of the technique deserve a more detailed description. The apparatus—and there are several types in the field—depends on the accurate determination of oxygen consumed by a patient who is lying at ease, making no muscular effort apart from respiration and circulation, whose digestive tract is at rest, and whose skeletal muscles have been inactive for a half an hour or more before the test. Under such conditions of perfect quiet the oxygen consumption shows the pace at which fuel is being consumed in the body. If we know in addition the types of fuel which the machine is burning—for instance carbohydrate, protein, or fat—we may quickly calculate the calories of heat actually developed in the machine from the amount of oxygen consumed. But the fuel mixture we can determine if we also weigh the CO₂ and get the ratio of CO₂ produced to O consumed, the "respiratory quotient." Carbohydrate, protein, and fat each have a definite ratio of CO₂ produced, to O consumed, so that from Benedict's and Atwater's fundamental work we

may determine quite exactly the character of the fuel mixture being burned. Knowing the kind of fuel mixture, the amount of oxygen consumed can liberate from it a perfectly definite amount of energy as heat. And so we arrive at a figure which tells us the heat units being produced, minute by minute, in the human engine under observation. But we find that two perfectly normal individuals, under identical conditions, produce very different amounts of heat, for this amount is related to age, to sex, to weight, height, and contour, or to surface area. Gram for gram the mouse metabolizes at an enormously greater rate than the elephant. But if we relate the heat produced to units of surface of the two animals we find that they produce energy at just about the same pace. The mouse has a great deal more surface exposed per gram of weight than has the elephant. And so through the most elaborate correlation of data requiring years to secure, the tables of DuBois or the tables of Benedict were prepared by which we can relate the actual energy produced by an individual to his age, sex and area. We thus finally arrive at a figure which appears to be a genuine constant in metabolism—and basal metabolism is expressed in calories of heat produced per unit of surface area—calories per hour per sq. meter. The basal metabolism of any normal individual may be predicted then with surprising precision for either sex and for any age if we know his height and weight. In certain conditions wide variations from the normal metabolism are found—particularly in hyperthyroidism. In the classical case, the clinical picture of abnormally active metabolism is regularly borne out by the markedly increased metabolic rate. Also in some border line conditions where typical symptoms are not so clear, the metabolic rate appears to confirm the suspicion of heightened thyroid secretion. But again it must be borne in mind that the basal metabolic rate is not determined wholly by thyroid activity. There are undoubtedly other factors which play a part, perhaps a large number whose nature we can only guess at today, and which may so alter the metabolic rate as to either obscure excessive hyperthyroidism or to simulate it by giving a heightened basal rate. The basal metabolism figures often appear equivocal. They sometimes fail to substantiate what the other symptoms suggest, they sometimes may seem to show a condition for which the thyroid is only partially responsible. The present enthusiasm for making basal metabolisms is going to lead to many mistakes, but it is also going to lead to the collection of quantities of valuable data which in time will be correlated

and interpreted, and in time will show us just how widely applicable, and just how reliable this new tool for diagnosis will prove to be.

Like any complicated test for use in the clinic, it creates a demand for less complicated apparatus and technique. The demand for simplification has been met by a number of investigators, particularly Benedict, and we now have metabolism meters of very simple and inexpensive design, capable, however, of sufficient accuracy to be valuable aids to the clinician. In these simplified types of apparatus, no attempt is made to determine the respiratory quotient, nor the CO_2 expired. An average figure has been experimentally determined for respiratory quotient, and the error caused by the maximum deviation possible from this average figure, introduces only a small uncertainty in the final result. Measuring the consumption of oxygen is, therefore, all that is necessary for a very close approximation to the actual metabolic rate. Such types of apparatus will probably not be used in the painstaking studies of metabolism that are carried on in research institutions. On the other hand, they will undoubtedly have a wide field of use in hospitals and clinics, where marked abnormalities of metabolic rate are to be looked for.

In concluding this brief resume of some of the recent advances in chemistry, I should like to say a word about the relation of the laboratory to the physician. I feel that in many cases it stands at something either more or less than its real value. Many times it is undervalued. Quite as often it is given an importance which it does not possess. Too often there is danger that the laboratory results will be substituted for clinical diagnostic ability. The laboratory findings cannot take the place of the keen observation, the experience, the almost intuitive recognition of signs—invisible to the layman—which is the equipment of the real diagnostician. To such a one the laboratory is an aid in two ways. First and by far the more important is the understanding which the results of laboratory research give him of the complexities of the human mechanism. Second, by placing at his disposal methods for securing information in addition to that secured by eye, ear and touch. He uses the laboratory as he uses his stethoscope, or his blood-pressure apparatus, or his ophthalmoscope, without attaching any undue importance to the results, nor believing that it can apply in all sorts of cases. If the laboratory results are equivocal—and nine times out of ten they are—the clinician proceeds on the evidence acquired in other ways.

The number of sharp tests like sugar or al-

bumin in urine are few indeed when we consider the number of years chemists have been at work on medical problems. But on the other hand, while only a few specific unequivocal reactions have been forthcoming, useful enough to become part of the everyday routine in the physician's office—think of the tremendous advances in general knowledge of the human machine and its reactions, its composition, its intermediary metabolic processes, that have been built up in that same period.

These advances should be recognized as the real aids which the laboratory side of medicine has made and continues to make to its practice.

CHRONIC HYPERTENSION*

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It does not require more than ordinary observation to demonstrate that this disease is one of the biggest factors in causing economic loss of any one disease that we have. Through education and preventive medicine the danger from diseases of early life have been greatly lessened, and now when a child is brought into the world his chances of becoming an adult are immensely greater than they were even twenty years ago, but the heavy toll that disease is taking on early middle life say from forty to fifty-five is being more and more recognized not only by our profession but by the laymen, because it is in these years that the man gives his biggest contribution to the community.

A recent writer states that one of the most common pathological conditions found after the age of forty is this cardio-vascular condition, which we recognize by increased blood-pressure.

All of us here today can think of men of our acquaintance who have either greatly slowed up, or their work actually ended by death, leaving a void that was difficult or even impossible to fill. The part hypertension plays in this is all too prominent.

In what I have just said, and am going to say, I am presupposing that we all can agree that there is a definite group of pathological conditions, which we may class as a disease entity, and if we were going to name it in full we would call it, cardio-vascular renal disease.

Dr. L. F. Barker has divided the course of this disease into four stages. First, incipient arterial hypertension often accidentally discovered. Second, relative early chronic hypertension without other obvious signs of renal or arterial disease,

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and characterized by such symptoms as: fullness or pressure in the head, transient dizziness, lack of endurance, irritability. Third, a more advanced hypertension before the appearance of serious complications. This group is characterized by the various neurasthenic systems, the majority of them complaining of dyspnoea on exertion. Fourth, group of the late stages of hypertension with serious complications such as cardiac, renal and cerebral. So much for our conditions as we find them, now what is the cause? There have been many theories advanced but none of them are absolutely tenable, however, all of them use a toxemia as the foundation. Suppose we let the physiopathologists fight out the method of action of the chronic intoxication and let us rather turn to the more common sources of the intoxication. One author has grouped them according to their relative importance as follows: Dietetic errors, faulty metabolism, alcoholism, syphilis and infections. I can heartily agree with this with the exception the position of relative importance, which appears to me reversed. Suppose we put infection other than syphilis first with faulty metabolism second. Let us consider these possible causes separately.

First, Dietetic Errors—It is no uncommon thing for a man between thirty-five and forty to come into your office or my office complaining of indigestion, insomnia or nervousness, and we make a careful examination both physical and laboratory, with no special signs prominent, except a rise in blood pressure of twenty to fifty points. I do not believe that I am presuming when I say that the majority of us would give this man the same general advice. We have him cut out alcohol, tobacco, coffee, meat, he is forbidden to worship at the shrine of any of the gods, even Venus is tabooed. After removing all of these pleasures both real and imaginary have any of you seen any of these cases get well? Personally I have not. I admit some improvement for a time, but eventually it always gets them.

Blackburn in an article in the Journal voices my view when he states, to the effect, that constipation *per se* is not a source of autointoxication and probably the only chronic intoxication we get from the bowel comes from chronic diarrhoea. Nature looks after any possible poisoning from the intestinal tract, either by vomiting or purging. This is perhaps best demonstrated by the so-called billious attack which is relieved immediately either up or down. One of the healthiest men I know has only averaged an evacuation of the bowels every four days for the last twenty years.

We will have to admit that alcoholism is a factor in this condition, and those who continue to worship at the shrine of Bacchus, and especially those who prefer moonshine to the sunshine are bound to furnish a certain small per cent of these cases. Dr. L. F. Barker says "have not been able to convince myself that alcohol has played a role of any importance in the etiology in patients with high blood-pressure."

What is true of alcoholism is equally true of syphilis. Here Dr. Barker finds only two and one-half per cent with positive Wassermann.

Faulty Metabolism from other Than Dietetics Causes—Let us class as probably second in importance and under this group comes those individuals with the unstable endocrine system, and especially the ones with conditions which we call neuroses. It is this class that probably gives us our best results from diet. Not through the efficacy of the diet, but through suggestion. Is it not possible and even probable that one of the big factors in causing an unbalancing of the endocrine system, and thereby the production of early degenerative changes, comes from our present educational system? We find the boy of twenty occupying the position of the man of thirty, of twenty-five years ago. Certain educators even go so far as to contend that, mental discipline should begin with the infant's first steps. The boy of fourteen years is completing his high school course and the youth of twenty is ready for life's work after a combined course of liberal arts and a profession.

We all are familiar with the brain fag, evidenced by the irritability and inattention of the later school hours. Can this continue day after day even with minds and bodies as resilient as the growing child, without leaving a mark of vulnerability of lessened resistance somewhere in body or in mind. After spending three-fifths of the waking hours in school work, he is turned loose in the gymnasium or athletic field, where violent prostrating exercises are undertaken, which, often times in revulsion of his mental tasks, works as great injury to the body as excessive application does to the mind. The result of all this is that our young subject is started out in life with mind and body admirably adapted for the reception and development of early senile changes.

Much as has been done along general health lines, there seems to be a lack of balance and sense of proportion in our efforts. The study of the prevention of disease outweighing entirely the efforts toward improving the organism to resist disease and thus prolong life. To emphasize my

point that mental strain as well as physical may cause an upset in the endocrine balance, let me recall a case of a young man twenty-four years old with negative family and personal history. An unhappy love affair, causing an upset in his body economy with the loss of twenty pounds weight and sudden development of systolic pressure of 160. After about three months his viewpoint of life became more normal and his blood-pressure dropped to 120 where it has remained for a year.

That infection plays an extremely important role as a causative factor has been brought home to me several times in the past two or three years. To emphasize this, permit me to report two or three cases from my own work.

A woman age fifty-four came to me complaining of sudden attacks of palpitation, at times accompanied by syncope, mild indigestion, and insomnia, her family informed me that she was very irritable and that her whole mental attitude was changed, her personal history, eight healthy children, twenty years ago a pelvic infection which was drained with good recovery. Physical examination showed a rather flabby musculature, skin dry and sallow, marked, extensive pyorrhea, slight goitre, heart large, rapid, and small mitral murmur. Abdomen negative, urine negative, systolic blood-pressure 190, this patient was kept on a careful diet and the nervous system controlled by sedatives over a period of nine months. At the end of which time the blood-pressure remained 190, and there was a loss of twenty pounds in weight; at this time she consented to have her teeth out, thus cleaning up her pyorrhea. Three months later all medication and dieting was stopped and six months afterwards patient had gained thirty pounds, blood-pressure 130, at which point it has remained for a year and a half, and last week she told me she was feeling fine.

A patient, a man, age twenty-six, married, an automobile mechanic by trade, came to me, suffering with headache, chronic indigestion, dizziness on stooping, noises in the ears. On physical examination a powerful built, big bones, strong muscles, florid complexion, teeth in good condition, very large juicy tonsils, heart dullness extending one-half inch beyond the nipple line, apex beat in the fifth intercostal space in the nipple line, heart sounds negative, abd. negative, urine showed a few hyaline casts but no albumen, systolic blood-pressure 170. Bowels moved about every second day. This man was put on a restricted diet, over a period of three months with no improvements, at this time he developed an acute tonsillitis, after recovery the tonsils were removed. Eight weeks later the tonsillectomy symptoms had disappeared, and the systolic blood-pressure was 130. I saw this patient six months later and found his blood-pressure still 130 and he was feeling fine.

I might go on and enumerate cases where draining the gall-bladder or cleaning out a pelvis, and

in one case draining of prostate have accomplished the same end, but I do not wish to tire you.

Dr. Harris A. Houghton in the Medical Record of March 18, 1922, while trying to prove that salt retention is the direct cause of hypertension, lays stress on the fact that all of these cases give a history of some infection, such as scarlet fever, tonsillitis chorea, etc. Dr. Barker reports in 200 cases of hypertension, 104 with defective teeth. Heredity also plays a part as a causative factor, but I believe that this part is played largely in one way. Certain families of a truth do seem to be subject to hypertension, but when we come to investigate these we find that they are especially susceptible to infection and it is reasonable to suppose that the infection is the real factor.

With man showing an increasing death rate in middle life and with a large number of failures back of us when using the dietary and eliminative treatment it would seem that our patient is not getting all that is coming unless we make a careful search for some source of chronic poisoning such as focal infection.

In our anxiety to relieve we sometimes are over zealous. I would not believe nor have you believe that a man whose cardiovascular system has reached the stage where he has nocturnal diuresis and the series kindred symptoms, may be cured by the removal of the foci of infection. But if the man is seen early and the foci located we surely will be able to get many startling good results.

I have said nothing new nor original but my endeavor is to emphasize the fact that we can get results in a condition that formerly was almost hopeless.

THE TREND OF CANCER MORTALITY

According to the Bulletin of the Metropolitan Life Insurance Company, the mortality rate from cancer since 1911 among policyholders in that company showed a slight increase from year to year. The increase was at the rate of six deaths per 1,000,000 per year. Later it was shown that the increase was limited almost entirely to the ages beyond fifty-five years, under that age there was a slight decline.

There were decreases at all ages for cancer of the buccal cavity and cancer of the skin. There was a marked increase of cancer of the peritoneum, intestines and rectum and the female breast.

"As we have already said, cancer, taken altogether, has shown slight decrease under age of fifty-five, and increase in the death rate beyond that age."

THE POST-OPERATIVE TREATMENT OF TOXIC GOITER

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The secret of the successful post-operative treatment of toxic goiter is to anticipate and prevent, if possible, the development of complications. The work of Kocher, Mayo and Crile stands out especially brilliant in the field of goiter surgery in the recognition and prevention of post-operative complications. The noteworthy post-operative complications encountered in surgery of the thyroid are: (1) hyperthyroidism, (2) shock, (3) hemorrhage, (4) cardiac failure, (5) paralysis of the vocal cords, (6) pulmonary complications, (7) tracheal obstruction, (8) tetany, (9) air embolism, (10) hematoma of the wound (11) infection of the wound, (12) thyroiditis of the remaining portion of the gland with resultant myxedema, and (13) psychoses.

Hyperthyroidism—Perhaps the most common and most dreaded complication of thyroid surgery is hyperthyroidism. A great many hypothetical theories have been advanced concerning the significance of this condition, but more is known about its prevention and treatment than about its etiology. With the improved methods of clinical diagnosis, the realization that exophthalmic goiter is never an emergency operation, and the present efficient surgical technic and team work, this complication is seen less than it was a few years ago. Some investigators believe that hyperthyroidism results from the absorption of toxic secretions from the wound; yet a marked reaction following ligation or the injection of boiling water into the gland is not uncommon. Likewise, fatal hyperthyroidism has followed tonsillectomy and operation elsewhere in the body. Kocher¹¹ and Riedel believed that post-operative hyperthyroidism was due to general anesthesia, yet it follows the use of local anesthesia. Crile⁴ has asserted that post-operative hyperthyroidism is due to shock. Others have maintained that it is related to thymic hyperplasia. Crotti believes that he has observed it less often since he has routinely combined thyroidectomy with thymectomy, but this practice is not supported by other observers.

Plummer's¹⁶ statement that a high rate of metabolism dominates the clinical syndrome of hyperthyroidism is generally accepted; he also believes that the rate of metabolism is dependent on the thyroid hormone, and that this function is not specific for certain tissues, but is common to all the cells of the organism. Sufficient increase or decrease in the rate of metabolism, dependent on

this hormone, gives rise to the clinical syndromes of hyperthyroidism and hypothyroidism.

Since the cause of hyperthyroidism is still a matter of conjecture, its clinical manifestations and their prevention must be considered as of primary importance. To all appearances post-operative hyperthyroidism is identical with that stage of Grave's disease which has been designated a crisis, except that the symptoms are greatly intensified. There is palpitation, tachycardia, tremor, vomiting, fever, excessive sweating, insomnia, extreme irritability and nervousness, and in the more severe cases hallucinations, psychosis, or jaundice. There is marked dilatation of the heart and often renal impairment. In one case I observed a blood urea of 450 mg. per 100 c.c. of blood. Exophthalmos is intensified; the patient is very restless and picks at the bed clothes; his extremities become chafed from being constantly active; as the fever rises restlessness changes to delirium. Unless the intake of fluids is sufficient, the tongue becomes dry and parched. The basal metabolic rate has been observed to pass +100 per cent in some cases. The fever ranges from 101 to 106 degrees or more. The pulse rate is usually above 150.

Post-operative hyperthyroidism may be guarded against by the careful selection and preparation of patients by preliminary procedures, such as intensified rest, hot water injections, and ligations. Whether the gland is "stolen" after the manner of Crile⁵, or thyroidectomy is performed after the patient's confidence has been gained, depends on the surgeon and the individual case. Any operative procedure when the disease is on the upward trend or on the crest of a wave of hyperthyroidism may precipitate a crisis. Local anesthesia and gas-oxygen alone or combined is the anesthetic of choice for many surgeons. Others prefer ether. A rapid yet bloodless operation minimizes the risk of post-operative hyperthyroidism.

Crile⁵ believes that since adopting his method of secondary closure of wounds and packing them wide open with gauze to facilitate drainage of toxic secretions, he has not only shortened the time of operation, with the resultant prevention of complications, but has eliminated post-operative hyperthyroidism. I have also found that the use of gauze packing and drains is an excellent procedure.

If all methods of prevention fail, and hyperthyroidism develops, the increased metabolism may be best combated with fluids, and the fever reduced by sponges and ice bags, with quiet and sleep. Although ice packs are somewhat dangerous, they may be employed in desperate cases.

If the patient lives forty-eight hours, a prognosis can usually be given, provided bronchopneumonia does not develop as an additional complication.

Shock—With the marked advances in surgery of the thyroid during the past few years, shock is no longer a common complication. Treatment is largely preventive. There is no generally accepted theory regarding the etiology of this condition, but views regarding its prevention and treatment are now better formulated. In an analysis of the etiologic factors in shock Seelig has considered the following doctrines:

1. Vasomotor exhaustion.
2. Cardiac spasm and eventual failure.
3. Inhibition of the functions of all the organs.
4. Deficiency of carbon dioxide in the blood.
5. Morphologic changes and eventual partial, or complete disintegration of the ganglion cells.

Prevention of shock in goiter surgery is based on the careful selection and preoperative preparation of patients. Dehydrated patients should be built up until their condition warrants surgical interference. Proper rest for the body and nervous system should be insured both before and during the operation. Preliminary blood transfusion may be indicated. Crile⁶ has emphasized the importance of maintaining body warmth on the operating table. A dry operating field points to a better prognosis. A rapid accurate resection is desirable, providing the tissues can be gently manipulated. As previously mentioned local novocain and gas-oxygen alone, or combined, as indicated in the individual case, is the anesthetic of choice and minimizes the risk of shock.

If shock occurs, the generally accepted methods of treatment should be instituted without delay. Elevate the foot of the patient's bed; maintain body warmth by external heat; administer subcutaneous injections of saline solution; and give shock enema. Opinions differ regarding the use of adrenalin, pituitrin, and blood transfusion.

Hemorrhage—Post-operative hemorrhage may be guarded against by observing the following steps in the technic of thyroidectomy. Tie off the vessels ligated after resection of one-half the gland before attempting to resect the other half of the gland; before beginning resection of the gland carefully ligate the lateral veins. These procedures prevent the vessels from tearing off and retracting. Stick ties insure better hemostasis. When the operative field is apparently dry the patient should be induced to cough or strain. This will commonly disclose one or more bleeding vessels that might otherwise have been overlooked. In cases in which it is impossible to secure absolute hemostasis the wound should be

packed with strips of gauze which will also act as drains for the toxic secretions.

Post-operative hemorrhage usually occurs the day of the operation and may be detected by increasing dyspnea, choking spells, a rapid weak pulse, cyanosis, and a tense swelling in the neck. No time should be lost in opening the wound, expelling the clot, and ligating the vessel. It may be impossible to locate the bleeding vessel at first, but the hemorrhage can be controlled by packs until conditions are suitable for examination.

Cardiac Failure—Following thyroidectomy cardiac failure is seldom seen uncomplicated, and usually occurs in connection with post-operative hyperthyroidism. In exophthalmic goiter death may result from acute cardiac dilatation. In toxic adenoma, death from cardiac failure usually is due to an acute strain superimposed on a heart that has been damaged for many years. In such cases there is usually marked chronic myocardial degeneration. Digitalis is the best safeguard against cardiac failure, but it must be given before operation.

Paralysis of the Vocal Cords—Crotti believes that injury to the inferior laryngeal nerve is most liable to occur.

1. When the inferior thyroid artery is ligated; hence, operation should be performed far from the thyroid; that is, on the inner border of the carotid sheath.

2. When resecting the gland; hence a thick layer of glandular tissue should be left in connection with the posterior capsule. If these two requirements are observed, there should be no direct injury to the inferior laryngeal nerve.

We may consider, then, that injury to the nerve during the operation either by section, ligation, stretching or pinching is obviously due to a direct cause. Injuries due to indirect causes are paralysis from nerve compression by scar tissue and edema of the nerve or surrounding tissue.

Pre-operative and post-operative examination of the larynx should be made routinely in all cases of goiter. If one cord is paralyzed, the surgeon must exercise the greatest care to avoid injury to the remaining cord. The prognosis in bilateral abductor paralysis is not only serious from the point of view of return of function, but also of life. As a rule, the patient is required to wear a tracheotomy tube and is subject to frequent severe choking spells. Deaths due to asphyxial pneumonia may occur.

By using local anesthesia and talking with the patient during the operation the surgeon is enabled to detect immediately any injury to the cord. Pemberton believes that injury to the nerve

during the course of operation may often be detected by a sudden change in breathing, such as rasping with inspiratory strides. Cutting loose the offending suture may be followed shortly by return to normal.

The prognosis following injury to one of the inferior laryngeal nerves is good, as a compensatory swinging over of the other vocal cord occurs. The slight hoarseness that so frequently occurs following operation, probably due to edema of the nerve, usually disappears in forty-eight hours. Cases of functional aphonia are of common occurrence, but in these steam inhalations and the surgeon's assurances of recovery always seem to effect a cure. The normal voice is often restored in patients whose vocal cords had been impaired because of pressure from the goiter.

During my graduate work at the Mayo Clinic it was my good fortune to assist Dr. J. deJ. Pemberton in a series of 350 thyroidectomies in which no case of vocal cord paralysis occurred. I believe this excellent record may be partially attributed to (1) an accurate knowledge of the anatomy, especially that of the nerves and arteries (gained by post-mortem anatomical dissection); (2) applying the hemostats in such a way as to close in the vertical line of the neck and not across it; (3) maintaining perfect hemostasis at all times and never applying a hemostat until the field of operation is dry and clearly visible (accomplished by traction on the gland or pressure of the index finger beneath it, raising it from its bed); (4) leaving plenty of gland tissue; (5) avoiding unnecessary haste; (6) avoiding deep suturing; (7) ligating all vessels on one side before beginning to resect the remaining half of the gland, and (8) using local anesthesia in 90 per cent of the cases and conversing with the patient.

Pulmonary Complications—With the more general adoption of local anesthesia, the recognition of the importance of pre-operative "colds," and improved methods of surgical technic and post-operative treatment, the incidence of aspiration pneumonia has been considerably reduced. As pointed out by Bartlett, it is most apt to occur when paralysis of a vocal cord leaves the entrance to the air passages less than usually well guarded. As a preventive measure it is important not to allow the patient to aspirate the secretions that tend to accumulate in the larynx following thyroidectomy. The phlegm should be cleared out either by posture or, if the secretions are tenacious, with steam inhalations. Pneumonia is most apt to develop when it becomes necessary to do a tracheotomy for collapse, or obstruction, or because of bilateral paralysis of the vocal cords.

Tracheal Obstruction—Tracheal obstruction or collapse, either at the time of operation or several hours later, is one of the most serious complications in goiter surgery. At the time of operation it occurs most commonly in substernal or intrathoracic goiters. It is due usually to compression or deformity of the trachea when an attempt is made to manipulate the intrathoracic portion. It is, therefore, important to remember to free the smaller lobe from the trachea first, and to dispense with all hemostats when the vessels can be ligated. This allows the surgeon to control the patient's breathing and gives the latter more confidence so that he does not become frightened and choke when traction is made on the trachea.

Tracheal collapse occurring several hours after operation is due to a falling in of the tracheal rings which have become softened by years of pressure from the goiter. The softened portions of the tracheal walls are supported by the goiter as long as it is not disturbed, but when the growth is removed the walls have no support or elasticity and are sucked in with each inspiration. Once the diagnosis is determined a tracheotomy should be performed without delay, and long tracheal insufflation catheters inserted, since ordinary tracheal intubation tubes are too short. Considerable dyspnea results from paralysis of the cord, and if both cords are injured, tracheotomy is required. In performing a tracheotomy in a thyroidectomized patient, the mediastinal space should always be well walled off by a pack before the trachea is opened in order to prevent a possible fatal mediastinitis.

Post-operative Tetany—This complication was more frequent when lobectomy was the operation of choice in goiter and is seldom seen today. The condition may follow the complete removal of all or of the greater part of the parathyroid tissue, or an injury of the parathyroids or their blood supply.

In cases of tetany symptoms usually develop within the first forty-eight hours after operation. Boothby has called attention to the prodromal symptoms, such as headache and general weakness accompanied by pains radiating down the extremities and chronic twitchings. Usually, the onset is characterized by a pricking sensation and a slight stiffness of the fingers. The symptoms appear almost constantly symmetrical and bilateral, and reach their maximum intensity on the third day. The upper extremities are most commonly affected and present the characteristic contraction spoken of as the accoucheur's hand, which consists of flexion of the fingers at the metacarpal phalangeal joint with adduction of

the thumb. Intercurrent contractures of the muscles of the face or trunk occur less often. Erb, in 1874, pointed out that in tetany the electric excitability of the motor nerves is increased; Chvostek, in 1907, found that the facial muscles can be made to twitch by tapping along the course of the facial nerve; Weiss showed that a sudden contraction of the muscles frontalis corrugator supercilli and orbicularis oculi occurs when the temporal and zygomatic branches of the facial nerve are percussed at the outer angle of the orbits. Crile⁶ has called my attention to two diagnostic points of which I have seen no mention in the literature; namely, a circumoral pallor and a peculiar shiny glazed appearance of the forehead. Hysteria may be an important factor in some of the cases.

Cases have been reported in which death due to tetany occurred within three days after operation, but with the present methods of treatment tetany seldom persists for more than forty-eight hours. I have seen a few cases, however, in which the symptoms persisted in a mild form for a period of several months. The treatment of post-operative tetany with parathyroid extract or by parathyroid transplantation alone has not proved satisfactory; whereas, excellent results have been obtained by the administration of calcium lactate by mouth or rectum, in a 10 per cent solution, 4 gm. every three hours, or subcutaneously in a 5 per cent solution. It may also be administered intravenously. If the patient still possesses some parathyroid tissue, calcium lactate may tide him over the danger point until compensatory hypertrophy of the parathyroid gland occurs. Crile⁶ advocates using 20 c.c. of a 25 per cent solution of magnesium sulphate in very severe contractures. Ordinarily he administers parathyroid extract, 1/10 to 1/5 gr. three times a day, thyroid extract 2 gr. twice daily, and calcium lactate 15 to 20 gr. four times a day. This treatment is modified in the milder cases.

Although not common, air embolism is probably the most serious of all complications that may develop in goiter surgery. It may occur after ligation as well as after thyroidectomy. It is most likely to develop after operation for intrathoracic goiter, because in these the veins may be torn accidentally and the opening not discovered. Air is then aspirated into the thyroid veins passes into the internal jugular and innominate veins, and then into the right auricle. The veins may be adherent in malignant goiter; thus they are unable to collapse and prevent the aspiration of air.

The clinical signs and symptoms of embolism may develop while the patient is on the operating table, but they more often appear several hours

later, and frequently not until the patient gets up. In the patients I have seen sudden fainting spells were followed by mild dyspnea. The patients became very pale, and developed cyanosis of the lips and extremities with failure of the circulation. In some cases there was no perceptible change in the pulse, in others the pulse became rapid and weak. In cases in which the blood-pressure was taken the systolic pressure had dropped below 90 mm.

If death does not occur immediately, the patient should be given morphin and kept absolutely quiet. Since air embolism is often induced by straining at stool, the bowels should be kept at rest for several days. The patient may survive the initial attack and succumb to a second one. Several of the cases which I have seen, in which a clinical diagnosis of embolism was made, recovered. Emboli may lodge in the lungs and cause infarction, and pleurisy or pneumonia follows.

Hematoma of the Wound—Post-operative hematoma is not difficult to treat, but is an unpleasant complication which may usually be prevented by securing perfect hemostasis. This is accomplished by requesting the patient to cough or strain before finishing the operation and ligating any "bleeders" that appear. Packing with plain gauze, when it is impossible to obtain a perfectly dry field, will help. A rubber tube drain should always be used. The patient should be told not to allow his chin to rest on his chest continuously, but to hold it erect at least part of the time. A rather firm dressing will aid him in this. If hematoma develops, hot dressings should be applied three times a day and care taken to keep the drainage tract open.

Infection of the Wound—This is not a serious complication, but it may be very annoying to the patient, especially if she is a young girl and a disfiguring scar results. Although infection in itself is not serious, it may induce other complications of which post-operative myxedema is probably the most serious and frequent.

Thyroiditis of the Remaining Portion of the Gland, with Resultant Myxedema—Formerly, it was considered that post-operative myxedema resulted from removing too much of the gland at the time of operation. Now we know that in the majority, if not all, of these cases myxedema develops because of a thyroiditis which destroys the remainder of the gland. For this reason it is important to observe all cases in which there has been infection of the wound for a considerable period of time in case myxedema should develop. While this condition cannot be prevented, it can be properly treated and the patient kept in a nor-

mal state as long as he takes thyroxin. The work of Plummer¹⁷ and Kendall has simplified the treatment of myxedema so that by the use of the metabolic rate and thyroxin it can be treated scientifically and accurately. Briefly, Plummer¹⁷ treats his patients by first obtaining a series of metabolic rates to serve as a check, then injecting two doses 15 mg. of thyroxin intravenously to bring the patient's metabolism to normal. By frequent readings of the metabolic rate under varying doses of thyroxin the exact dosage required to obtain the normal metabolism can be determined.

Psychoses—The incidence of post-operative psychoses is rather higher in thyroid surgery than in operative work in other regions of the body, due to the peculiar mental state of the toxic patient. Some physicians hold that individuals who develop exophthalmic goiter are mentally predisposed to this condition. It is true that these patients are often high-strung and rather nervous, and mental derangement of almost every degree and type has been seen in them both before and after operation. This type of goiter is seen most often in adults, and more frequently in the female than in the male. While confusion, hallucinations, fears, stupor, delusions and melancholia are frequent, hysterical excitement is probably the commonest form of mental unbalance.

McKittrick states that in high-strung, nervous persons, and most patients become nervous in view of an impending operation, the surgeon must maintain a constant attitude of optimism and encouragement; he must never lose sight of the fact that the patient is to be inspired with confidence. Thorough eliminative measures are instituted and large amounts of water and alkalis by mouth, rectum, and under the skin are given in cases of psychosis. Food should be given regularly with sufficient alkalis to keep down an acid intoxication. Bromides are very depressing and should be avoided, but opium, and hyoscine particularly, should be employed. General hygienic measures are important.

SUMMARY

1. The post-operative treatment of toxic goiter may be expressed by one word—prevention. The careful selection of the time and type of operation will obviate the development of hyperthyroidism.

2. A rapid bloodless operation performed under local anesthesia or analgesia minimizes the risk of shock.

3. A dry operative field at the completion of the operation and the use of a small gauze pack insure against hemorrhage. All patients should be

digitalized pre-operatively to guard against cardiac failure.

4. An examination of the vocal cords should precede operation. The use of local anesthesia and the avoidance of deep suturing will lessen the number of cases of vocal cord paralysis.

5. Care in avoiding manipulation of the trachea or in injuring the laryngeal nerves and the use of local anesthesia are factors in preventing pulmonary complications.

6. The early division and ligation of the anterior and lateral veins before they become torn lessen the tendency to embolism.

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BOGUE WITH MILLIKEN

Mr. Robert Bogue, 2543 Capital avenue, Omaha, Nebraska, a graduate chemist, who in the past devoted himself to the teaching of chemistry and bacteriology, as well as x-ray technique, is now representing John T. Milliken & Company in eastern Nebraska, north of the Platte river, including Omaha, Sioux City, Iowa and Council Bluffs, Iowa.

Mr. Bogue has made an extensive study of applied chemistry, especially in that branch related with medicine. He is also a deep researcher of bacteriology and is unusually well equipped through his training and experience to serve Milliken's customers on his territory.

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TAX REVISION

Taxes we assume are as burdensome to doctors as to any class of people and we are as much interested in a reduction. No more interesting reading from a psychological point of view can be found in modern literature than the discussion going on concerning tax reduction, by presumediy our greatest American statesmen.

The question that comes to mind is, are these men honest? Or has the discussion been relegated to men who would react to the mental test of twelve years old. We doctors, innocent of financial knowledge, are working hard during long hours, save every possible dollar to supply the necessities of our families, are looking for some wise and honest man to point out the way we should vote to secure relief from the tax gatherer. We have listened to the men we have elected to congress. We have listened to the men who have been placed in charge of the finances of the government and have sworn to administer them honestly. Other men of supposed ability and honesty have risen to say that the secretary either does not know, or is sadly mistaken. Other men say that really the best way is to vote more taxes—something like the *similia similibus curanter* of other days. How many kinds of opinion have been presented? Unless we are careful we shall get into the habit of thinking that there is being carried on a wonderful political game of deception, having for its purpose a hopeless confusion of mind on the part of the voter.

We may as well listen to the man on the street, he certainly could not know less than the so-called

statesman, and if we are not satisfied with him, we may form our own conclusions and approve what looks the best, and perhaps accept as the best the opinion of the man at the head of the financial department and who is most responsible.

A medical friend wrote recently that he had purchased Northwestern Railroad stock at 90 and could sell at about 50. He had but little money and wondered at that rate how long it would take him, by investing his small surplus earnings in railroad stock, to make an adequate provision for his family if he should be unfortunate enough to grow old or if anything should happen to his earning capacity. The only hope was by increasing the burdens of railroads and by decreasing rates and earnings. A curious kind of philosophy, which has it analogy in tax reduction by increasing the debts of the nation, state and municipality, by what some progressive people designate "public improvements" and "public generosity," an argument we dare not object to seriously.

Since writing the above editorial on Tax Reduction, we have seen abundant evidence to show that high taxes are not popular with any class, even practitioners of medicine, who are generally so patient of the imposition of public burdens.

Besides the general taxes, including the income tax, we have special taxes, three dollars (\$3.00) a year for the privilege of relieving patients of intolerable pain, also, I believe, a tax or license for the privilege of prescribing alcoholics for our old men and women for a little added comfort in their last days and for the purpose of tiding of some desperately sick patient over the danger point, not only must we pay for these privileges, but subject ourselves to the humiliation of being regarded by law enforcers as half-way criminals.

There is a feeling abroad that the doctor is in duty bound to attend medical societies and clinics in order to render better service to the public and at his own expense. There is, therefore, a feeling among many medical practitioners that the public should bear at least a portion of this expense in the way of allowing the physician to participate to the extent of a 25 per cent deduction in earned income.

To present this application in proper form, we print the following statement:

Grand Forks, N. Dak.,
January 18, 1924.

My Dear Doctor:

Would you kindly present the following letter to your society at its next meeting and try to bring about immediate and united action:

To Officers and Members,
Dear Fellows:

This seems an opportune time for the profession of medicine, as suggested by the J. A. M. A., to be heard from at the National Capitol. Every physician is directly interested in the subject of taxation. This matter, through the recommendations of A. W. Mellon, secretary of the treasury, has been brought before Congress and will be a paramount issue of the present session. As it affects physicians, we are compelled to pay half a million dollars a year in the indefensible narcotic tax. We willingly and uncomplainingly paid the pre-war, one dollar a year tax, and also the war tax of three dollars a year; but when this is still levied we consider that a grievance exists that should be righted. A reduction in the tax of 25 per cent on earned incomes is recommended. This would affect the great majority of physicians for it is well known that the average doctor's income is from that source. Let your influence be felt in this matter. The practice of medicine is making such leaps and bounds that only those who are alert can expect to keep up in the race. Attendance at medical meetings and post-graduate study are now essentials and the expenses incurred should be specifically stated as legitimate deductions in computing the income tax. I would recommend and urge that your society adopt a resolution expressing your views on—

1. Abolition of the narcotic war tax.
2. Reduction of 25 per cent in the tax of earned incomes as distinguished from incomes from investments.
3. Allowing deductions of expenses in attending medical meetings and in post-graduate study, and the same be forwarded to the Committee on Ways and Means, House of Representatives, Washington, D. C., and to such senators and representatives as can be approached. In addition every physician should write to his senators and representatives urging favorable action. If our 150,000 regular physicians would make their wants known in this way and follow up the work, favorable action would be almost a certainty. Feeling assured that you will act in accordance with the above, I am

Yours very truly,

J. GRASSICK, M.D.,
President N. Dak. Med. Ass'n.

OCULISTS AND OPTICAL COMPANIES

A question appears to have arisen as to the true ethics of advertising optical supplies. We had supposed that when one had things to sell of

whatever kind, including optical goods, microscopes or surgical instruments, they were offered in the open market for sale to any one who desired to purchase them. Some time ago our attention was called to an editorial in the American Journal of Ophthalmology in which it was stated that a question had arisen as to the attitude of certain Ophthalmologists and certain optical companies in relation to advertising. By some mischance credit was not given to the Journal which published this editorial, as should have been done and as it is our custom to do. The editor of this Journal confesses entire ignorance as to the merits of the question at issue and was not expressing views of his own. Our attention was drawn to this communication because of the fact that a question had come up as to the ethics of advertising optical goods that were sold to optometrists. We gained the impression that certain members of the American Academy of Ophthalmology objected to such advertising and were engaged in some kind of ethical propaganda which was of no interest to us, only as a matter of medical news.

The advertising policy of this Journal is to avoid misleading matter and if it should appear that an optical company, for example, should offer for our advertising pages an instrument that promised to cure the most extraordinary and impossible diseases of the eye, we should most certainly reject it, but who should become the purchasers of the ordinary instruments used in common by oculists and optometrists, we do not presume to say.

We see no objection to advertising health resorts and mineral waters providing no extraordinary or impossible claims are held out, or claims to cure diseases which cannot be cured by such means.

The Editor does not feel competent to discuss the question which is before the Academy.

BRINGING THE CLINIC TO THE PROFESSION

Dr. T. C. Boutley of Toronto, in an address before the California Medical Association advocated a plan adopted by the Ontario Medical Association two years ago, a plan carried out so successfully at the Des Moines meeting of the Tri-State District Medical Association, under the head of bringing the profession to the school. Dr. Boutley expressed himself in the following words:

Fortunately, in the opinion of many, there is much that can be done, and it is of one solution that I primarily presented myself before you to touch upon.

In brief, it is this: Take the school to the men, rather than ask the men to come to the school.

In the Province of Ontario, an area with a population of 3,000,000, including 3400 medical practitioners, an honest attempt was made two years ago to carry graduate instruction to the men in practice. At that time, although the Ontario Medical Association was in its forty-first year, it had less than 1000 members and an annual budget considerably below \$5000.

The Boston Medical and Surgical Journal for June 28, 1923, calls attention to a matter that should be seriously considered by writers of medical papers, not only for the convenience and comfort of the editor and for the reputation of the journal in which these papers are published, but also for the reputation and credit of the author himself.

It is a question whether writers of medical papers realize the responsibility that rests upon them when they quote the work of others. This does not end with the publication of an article of research or a case report.

The importance of clarity of expression and simplicity of language has been emphasized amply in the past. Recently attention has been drawn to the gross carelessness that exists among American writers in regard to exact quotations, proper spelling of authors' names and proper references in their bibliography.

Probably in no single country does such a state exist to the same degree as it does here. A very few of the American medical publications verify such references and these are to be thanked for the hours of labor and careful search they have spared other investigators.

HIGH BLOOD PRESSURE

It is interesting to recall the facts that Dr. Broadbent in his Croonian lectures delivered in 1887 before the College of Physicians in London on the Pulse, brought out many questions in relation to blood-pressure, which appear to the present generation as new and belong to the present generation, but as a matter of fact, Broadbent, with imperfect apparatus, saw the advantage of this method of study of conditions and diseases of the vascular system.

The Editor of Hahnemannian Monthly has abstracted many points in these lectures that may be of interest to the student of blood-pressure of today, with the reflection that medical history is a subject worthy of study and helpful in arriving at the conclusion that our present day knowledge was only reached by slow stages.

THE CITATION IN THE AWARD OF THE SOFIE A. NORDHOFF-JUNG CANCER RESEARCH PRIZE

Dr. Johannes Fibiger, professor ordinarius in pathological anatomy at the University of Copenhagen, has demonstrated, following repeated experimentation, that parasites play an important role in the formation of certain types of tumors in the proventriculi of rats.

Furthermore he has succeeded in effecting papillomata and undoubted carcinoma through the parasite nematode. Where others have failed after years of persistent researches, he first met with success in artificially inducing malignant tumors through external irritations and so thrown wide new avenues to future findings. Though the earlier results of Fibiger's work date back a number of years, he unremittingly labored towards an interpretation of the significance of parasitic irritants in malignant tumor formation, likewise of mechanical and chemical irritants. Fibiger and his associates have contributed generously to the literature of cancer production through the feeding to rats of oats and the application of tar to their tissues. In this way they have confirmed the successful work of Stahr and Yamagiva.

In a word, Fibiger's advances towards the solution of the problem of the causative irritants productive of cancer are at the same time most comprehensive and most remarkable.

His name will ever appear inscribed on the first page of the History of Cancer Research.

The commission on the award consisted of Professors Borst, Doederlein, v. Romberg and Sauerbruch, all of the University of Munich.

CONFERENCE OF MARITIME QUARANTINE AUTHORITIES OF THE WEST COAST OF SOUTH AMERICA

W. C. Rucker, U. S. P. H. S.

Doctor Belisario Porras, the president of the Republic of Panama, has called a conference to meet in Panama, R. P., on February 25, 26, 27, 28 and 29 for the purpose of considering the international standardization of maritime quarantine on the west coast of South America and the prevention of international spread of communicable disease in that littoral.

The Conference, which is under the immediate direction of the Honorable Colonel Juan Antonio Jimenez, secretary of Fomento y Obras Publicas, will hold formal discussions each morning at which will be taken up questions bearing upon maritime quarantine regulations; the methods, periodicity and certification of ship fumigation; uniform quarantine declarations and uniform bills of health. Afternoons will be devoted to practical demonstrations of public health and hospital methods. Clinics will be held at Santo Tomas, Ancon, Corozal and Palo Seco hospitals. There will also be demonstrations in municipal

hygiene, garbage collection and destruction, public markets and refrigerating plants at Panama and Colon, R. P. The conference will inspect the anti-malarial work which is being done by the health department of the Panama Canal and will make a study of ship fumigation with cyanogen chloride. The water works purification plant will be inspected and there will be a demonstration in public health laboratory methods at the laboratory of the health department of the Panama Canal. The Instituto Nacional and the Normal School will give an exposition of methods of teaching public health to children and the results in improved sanitation coincident upon the installation of the national road system of the Panaman Government will be shown. The Medical Association of the Isthmian Canal Zone will hold a special meeting at the Santo Tomas Hospital for the Conference. There will be a visit to the site of the Gorgas Memorial Institute and it is believed that this will constitute one of the outstanding features of this international meeting.

There will be many social functions for the delegates, among the most notable of which will be dinners given by the President of Panama and the Herrick Clinic and luncheons tendered the Conference by the Rotary Clubs of Colon and Panama and the Panama and Colon Associations of Commerce.

The Secretary-General of the Conference is Surgeon William Colby Rucker, U. S. P. H. S., chief quarantine officer of the Panama Canal. Physicians, surgeons and public health workers visiting the Isthmus of Panama at the time of the conference will be welcomed.

NATIONAL BOARD OF EXAMINERS CHANGE TITLE OF CERTIFICATES

There has been some objection to the title of "Licentiate" and after mature consideration, the board has changed the title to "Diplomate."

The Federal Bulletin explains that there has been some confusion and misunderstanding as to the significance of the title "Licentiate" and to obviate this, the title has been changed to "Diplomate," a term which has long been used in England, and is better understood.

DR. WILSON ON COUNCIL

The president of the American Medical Association has recently appointed Dr. Louis B. Wilson a member of the Council on Medical Education. This appointment fills the vacancy made by the resignation of Dr. Ray Lyman Wilbur, on assuming the duties of president of the American Medical Association.

Dr. Wilson, who is director of the Mayo Foundation, has been an active member of the National Board of Medical Examiners since its organization in 1915.

The present personnel of the council is as follows: Dr. Arthur D. Bevan, chairman; surgeon-general M.

W. Ireland; Dr. S. W. Welch; Dr. William Pepper; Dr. Louis B. Wilson; Dr. N. P. Colwell, secretary.

The states accepting the national board's certificate now total twenty-eight and are as follows: Alabama, Arizona, Colorado, Connecticut, Delaware, Georgia, Idaho, Illinois, Iowa, Kentucky, Maine, Maryland, Massachusetts, Minnesota, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Vermont, Virginia, Washington.

DORMITORY FOR MEDICAL STUDENTS AT HARVARD

An effort is being made at Harvard to secure \$1,000,000 to erect a dormitory for medical students.

The idea is to bring the students together for better social and health conditions. There will be single and double rooms, good baths, a hall for meals and for meetings, reading room and library. The idea of bringing students having the same interests together for mutual improvement is apparent.

THE GREAT IMITATOR

"The Great Imitator" is a title which has been aptly applied to syphilis, for there is scarcely a pathologic entity which may not be simulated by this disease. The reason for this is more apparent when two of the several characteristics of the *treponema pallidum* are remembered: its ability to invade any tissue of the body, and its tendency to excite a subacute or chronic, often an indolent inflammatory process wherever it colonizes. Just as syphilis is no respecter of persons, so also is it no respecter of the tissues which it invades, and often it lays its wanton touch where it is least expected. This is in marked contrast to most other pathogenic organisms, as for example the tubercle bacillus, typhoid bacillus, gonococcus and others which seem to have a predilection for certain tissues. The observable general effects of inflammation are practically the same, regardless of the etiologic agent. And because the *treponema pallidum* is a vagrant, roaming at large in the body, it frequently happens that the symptoms to which it gives rise are remarkably like those due to other microorganisms.

The diagnosis of syphilis should offer no insurmountable obstacles to the general practitioner, however, for with a careful history, a thorough and exhaustive physical examination, and the blood Wassermann test, a correct diagnosis is generally assured. Even apparently well-defined symptom complexes may frequently lead to a wrong diagnosis unless syphilis, the great imitator, is constantly kept in mind. The following brief series of abstracts of papers which have appeared in current medical publications calls attention to some of the ways in which syphilis may imitate certain of the well-recognized conditions which are due to causes other than syphilis.

MORE CO-OPERATION

Through the efforts of George Judisch, a feeling of friendly cooperation has been created between the State Medical Association and the Iowa Pharmaceutical Association. Last winter the Medical Association sent Dr. Parker to our convention as the official delegate. He gave one of the best talks of the meeting and pledged his efforts towards continuing the increasing spirit of cooperation between the two societies, and between the two professions. He presented a report which was later adopted as a resolution. This report has since been favorably acted upon by the State Medical Association, in convention at Ottumwa, May 10, 1923. At this convention George gave them one of his best orations with all the frills that only he can give it, and from all reports it was one of the features of the gathering. The Medical Association recommended the appointment of a committee on chemistry and pharmacy, continued the joint committee with the Pharmaceutical Association and appointed two delegates to meet with us next year.—Northwestern Druggist.

IOWA STATE UNIVERSITY NEWS NOTES

Don M. Griswold, M.D.

Dr. G. H. Hansmann, resident pathologist of Peter Bent Brigham Hospital of Boston, has recently been appointed resident pathologist, at the Iowa State University Hospital.

Doctors McClintock, Hines and Mr. Bray of the department of physiology; Doctors Plant, department of pharmacology, Rockwood, department of chemistry, Gibson, department of internal medicine, attended the meeting of the "Federation of American Societies for Experimental Biology" in St. Louis, December 27, 28 and 29.

Dr. Bunting, professor of pathology, University of Wisconsin, visited among his friends at the University Hospital, recently.

Drs. Loud and Armstrong of the student health department, were recently married.

Miss Marjorie Lambert, supervisor of Men's Surgical and Men's Medical Wards at the University Hospital, has resigned to go to the University of California.

Miss Helena Stewart, director of the School of Public Health Nursing, gave an address at the annual meeting of the Visiting Nurses' Association at Davenport, January 10.

Miss Pearl Kammerer of the University Hospital Social Service, attended a meeting of the Hospital Social Service Section of the American Hospital Association at Milwaukee.

Dr. W. J. McDonald attended a meeting of the American Student Health Association in Cincinnati, January 2 and 3.

Miss Josephine Creelman, superintendent of nurses, University Hospital, has been elected president of the State League of Nurses' Education.

A diabetic annex of the University Hospital has been opened at 9 East Market street. The rooms and laboratories are especially equipped for the care of diabetics. A one week's course in dietetic management, insulin therapy was given to practitioners in January. This instructional work for physicians of this state will be repeated in June.

Inwood, Iowa, Nov. 21, 1923.

Dear Doctor Fairchild:

Just a little comment on your article in Journal on "Fee Splitting." These are all taken up from one viewpoint and the gun is always aimed at the "General Practitioner." With the present outlook the general practitioners will soon all be gone. The young medical man is not going to sit out on the country cross-roads and go through the hardships that we have gone through and die as near to the pauper line as possible. What benefits the world will receive from losing this class, time will tell. Who is taking the place of this class? The quacks, chiros, etc. What is a quack? He is not a general practitioner, no—he is a specialist. Did you ever view it from the angle, Doctor? Who is helping to push this one class out and the other in? The ethical specialist (surgeon) who is continually preaching to the public and the profession the sins of "Fee Splitting." I couldn't say exactly what per cent of our profession are "money changers," but I think we will all agree that it is very large. I know I can vouch for that in our section here and I could give some excellent concrete examples.

A number of these (preacher) surgeons, give rewards to their special friends and not to the common class. They are no "fee splitters" however, oh no, (angels).

Here is an actual case. A patient of mine, in average circumstances financially, had an operation for goitre. The surgeon received \$1000. I received \$10 a day, time and expenses. The general rate for the G. P., you know the time surgeon spent. He never even gave me "thank you." I took a tremendous lot of kicks when I got home, or rather when patient got home. I was, professionally speaking—nothing. The surgeon was the philanthropist—a wonderful man, but the little fellow got the kicks.

When I advise my patient to go for operation, I take her or him up and assist as I can—I don't see why I should not receive something. If the job is worth \$150 or \$300, I think I have earned part of that. Do I not know more about my patient and ailment than the man who has just seen her once. Is not my opinion and assistance worth a good deal to him. Does he not owe me something for this, and

why is it wrong that he should pay me? If we are both honest with our patient, where does the "money changers" come in? Technique is only "mechanics."

Why do a lot of these surgeons try to make a G. P. a liveryman? That is all these "Fee Splitting" preachers want him to be. I received money several times and I take it with grace—I have earned it and I expect to get it. It is no secret and my patients and people know I receive part and I have earned part. My conscience is perfectly clear and if I have done nothing else wrong, I expect to go to heaven.

The medical man you mentioned in your article may be an "angel," but I doubt whether he would stand the acid test under the microscope. I have just started on this subject, but I must close. I would delight to get into an open debate on this subject. I have some real good concrete examples on the other side. I have no doubt the G. P. is a long way from perfect, but it is not right to clean one room in house and leave other dirty. Let us give our guns a different range.

Yours fraternally,

A. P. Stewart.

REDUCTION IN FELLOWSHIP DUES A. M. A.

The board of trustees of the American Medical Association has authorized the reduction of the annual Fellowship dues and subscription to the Journal to five dollars per annum, to take effect January 1, 1924.

INTERNATIONAL SURGICAL CONGRESS

At the Congress recently held in London, Dr. Davide Giordano, Venice, Italy, was elected president to succeed Sir William Macewen. The following are the predecessors of Giordano as presidents of these Congresses: Dr. Kocher, Berne; Dr. Czerny, Heidelberg; Dr. Lucus Champio, Paris; Dr. Depage, Brussels; Dr. Keen, Philadelphia; Dr. Macewen, London.

The next Congress will be held in Rome.

INDIANA STATE MEDICAL ASSOCIATION RAISES DUES

The Indiana State Medical Association at the Terre Haute session raised its dues from five dollars to seven dollars for 1924. This increase is to finance a plan to educate the public as to what the medical profession is doing, something like our Field Activities Committee.

The Indiana Journal seems to doubt if the seven dollar fee for each member can compete with the twenty-five to fifty dollar contributions of the chiropractors.

It is a rather curious fact that doctors will contribute so freely to clubs, and other societies, and so little to medical organizations, which, to any one else, would seem of vital importance.

SOCIETY PROCEEDINGS

Carroll County Medical Society

The Carroll County Medical Society held its annual meeting December 26, 1923. The following officers were elected: President, Dr. C. E. Wolfe, Coon Rapids; vice-president, Dr. A. Kessler, Carroll; secretary-treasurer, Dr. Jessie B. Hudson, Carroll; delegate Iowa State Medical Society, Dr. C. E. Wolfe, Coon Rapids; alternate, Dr. L. G. Patty, Carroll.

Cass County Medical Society

There was a meeting of the Cass County Medical Society in the Masonic parlor Wednesday afternoon, at 1:30, December 26, for the election of officers, the payment of dues, and reading of two papers, one, The Newer Therapy of Diabetes, by Dr. C. A. Miller of Massena and the other, Infantile Paralysis, by Dr. M. H. Lynch of Atlantic.

Twelve doctors were present and a most interesting session was held. Dr. R. A. Becker of Atlantic, brought in a young man suffering from greatly disturbed muscular action, which was becoming progressively worse, upon which the doctor wanted help in diagnosis. The judgment of the doctors present was that a Wassermann test should be made before making more than a tentative diagnosis.

The following doctors were present: Drs. C. L. Campbell, W. S. Greenleaf, R. A. Becker, R. L. Barnett, W. F. Graham, C. G. Clark, M. H. Lynch, R. M. Cullison, Earl C. Montgomery, Atlantic; Dr. C. A. Miller of Massena and M. F. Stultz of Wiota.

The following officers were elected: President, Dr. C. G. Clark, Atlantic; vice-president, Dr. R. A. Becker, Atlantic; secretary-treasurer, Dr. M. F. Stultz, Wiota; delegate, Dr. Earl C. Montgomery, Atlantic.

Dr. C. L. Campbell was selected as chairman of a committee, the other members to be selected by himself, to act in conjunction with the code committee of the Iowa State Legislature.

M. F. Stultz, Sec'y.

Dallas-Guthrie County Medical Society

The Dallas-Guthrie County Medical Society held its first meeting of the year at the Arlington Hotel in Adel, January 16, with a good attendance from nearly every town in the district. Four such meetings as the one held this week are scheduled for the year 1924. The next meeting will be held at Panora, April 17, the third one at Adel on July 17 and the final one at Panora October 16.

The program carried out at the first meeting was a good one and the doctors in attendance greatly enjoyed the papers and discussions.

Dr. I. O. Pond of Perry, president of the society, gave an address on Border Lines in Medicine and Surgery. Dr. Fred Moore of Des Moines discussed the topic, Mongolian Idiocy, and Dr. H. B. Jennings, councilor ninth district, read a paper.

Dr. I. O. Pond of Perry is president of the society

and Dr. S. J. Brown of Panora, secretary; Dr. J. A. Pringle of Bagley, vice-president; Dr. J. U. Harrison of Guthrie Center, alternate delegate, and Dr. E. T. Warren of Stuart, member board of censors.

Henry County Medical Society

The regular monthly meeting of the Henry County Medical Association was held Thursday evening at the Brazelton Hotel, Mt. Pleasant, January 24.

Jasper County Medical Society

The Jasper County Medical Society held a meeting in the office of Dr. R. W. Wood and talked over the organization for the coming year and elected officers for 1924.

Officers elected were: President, Dr. R. G. Anspach; vice-president, Dr. J. Lee Taylor; secretary-treasurer, Dr. W. E. Lyon.

Kossuth County Medical Society

The Kossuth County Medical Society held an interesting meeting at the city library, Algona, Tuesday afternoon, December 16, 1923. There was an unusually large attendance. Officers were elected for the ensuing year. Dr. Guy B. Anderson, Swea City, president; Dr. W. F. Hamstreet, Titonka, vice-president; Dr. Walter Fraser, Algona, secretary-treasurer. Dr. M. J. Kenefick was elected delegate to the next meeting of the State Medical Society, and Dr. J. G. Clapsaddle, Burt, alternate. Dr. Pierre Sartor, Titonka, censor.

Lee County Medical Society

At the December 20th meeting of the Lee County Medical Society at Fort Madison, Dr. Joseph A. Capps of Chicago, presented an illustrated lecture on Pain Sense in the Peritoneum and Abdominal Viscera. Dr. L. M. Randall of Iowa City, a discussion on the Corrective Treatment Puerperal Infection, illustrated by lantern slides.

The following officers were elected: President, Dr. J. G. Rea, Ft. Madison; vice-president, Dr. John H. Wilson, Keokuk; secretary-treasurer, Dr. William Rankin, Keokuk.

The next meeting will be held in May in Keokuk.

Mitchell County Medical Society

The semi-annual meeting of the Mitchell County Medical Society was held at the office of Dr. G. A. Lott, Osage, on December 12.

Dr. L. A. West of Waverly presented a discussion on kidney diseases, illustrated by lantern slides.

Physicians present were: Dr. Westenberger of St. Ansgar, Drs. Krepelka and Smith of Stacyville, Drs. Lee, Walker and Granan of Riceville, Drs. Owen, Hansen, Whitley and Lott of Osage.

Muscatine County Medical Society

At a meeting of the Muscatine County Medical Society held Monday evening, December 30, 1923, in

the offices of Dr. W. H. Johnston, Laurel building, Dr. T. F. Beveridge was elected president for 1924, Dr. W. W. Daut, vice-president and Dr. Johnston, secretary.

Organization was effected of a doctors' credit rating bureau which will be operated for the service of the doctors of the county.

Polk County Medical Society

The Polk County Medical Society held its annual meeting and banquet at the Hotel Commodore, Tuesday evening, December 27, 1923.

An interesting program was presented. At the close of the banquet, President Charles Ryan introduced Dr. J. Frank Auner as toastmaster, who, in well chosen words, introduced Dr. James Taggart Priestley as the first speaker, who, after fifty years' service in the field of medicine in Des Moines, was able to present interesting "reminiscences" of the days gone by. Dr. Priestley with many days behind him does not feel that the best of medicine has passed.

The toastmaster introduced Senator John J. Ethell of Bloomfield. Subject, What Legislators Are Thinking About. The senator with political sagacity avoided the subject and devoted his remarks to what we ought to be thinking about; that legislators were in duty bound to reflect the thoughts of those who elected them, and that right thinking at home would produce right thinking law makers.

President Ryan then resumed the chair and introduced Dr. Karl A. Meyer of Chicago, who delivered an address on The Surgery of Penetrating Ulcers of the Stomach, illustrated by lantern slides.

Dr. D. J. Glomset was called to the chair when the retiring president Dr. Charles Ryan delivered a well prepared, able and interesting address.

At the election of officers, Dr. W. W. Pearson was made president-elect, Dr. M. L. Turner was installed as active president, and delivered a short "extemporaneous" address from manuscript, in his characteristic, original, independent and interesting manner. Some business matters were considered, when the society adjourned.

The committee of arrangements is to be commended on the preparation for this important meeting and banquet. The place of meeting was fortunate. This new hotel, The Commodore, is a beautiful place and afforded every possible opportunity for entertainment. There were many guests and the general appearance and the dress of the ladies give abundant proof that the doctors of Des Moines are not without taste and judgment in selection of life companions. There were other ladies present, who, for the same reason, ought and will become companions.

The Polk County Medical Society at its annual meeting, elected the following officers for 1924: President-elect, Dr. W. W. Pearson; vice-president, Dr. Thomas A. Burcham; secretary, Dr. L. K. Meredith; treasurer, Dr. John Russell.

Plymouth, Cherokee, Buena Vista and Ida County Medical Societies

The County Medical Societies of Plymouth, Cherokee, Buena Vista and Ida met at the Bradford Hotel in Storm Lake, Wednesday evening and organized an inter-county society, which will be known as the Northwest Central Association. Dr. Booth Miller of Cherokee was elected president and Dr. Joynt of Le Mars was elected secretary-treasurer. Papers were presented by Dr. Downing of Le Mars, Dr. Szappanyos of Cherokee and Dr. Armstrong of Newell. The next meeting of the association will be at Cherokee on the 22nd of February.

J. H. O'Donoghue.

Ringgold County Medical Society

A meeting of the Ringgold County Medical Society was held on Thursday, January 17, at the city library, Mt. Ayr.

Program—Dr. L. H. Ahrens, Is Public Health Improving?; Dr. Samuel Bailey, Are Medical College Fees too High?; Dr. S. W. DeLong, How to Treat Common Colds; Dr. O. L. Fullerton, The Best Treatment of Flu; Dr. J. W. Hill, Hydrotherapy, Baths, Etc.; Dr. William Horne, How to Use Calomel and Quinine; Dr. A. E. Jessup, How to Use Morphine in Practice; Dr. C. T. Lesan, Present Status of Tuberculosis; Dr. F. C. Smith, Hypodermic Medication; Dr. C. M. Walker, Future Practice of Medicine—a Forecast; Dr. E. J. Watson, Is Insulin Practical Away From Hospitals?

An unusual feature of this meeting was that each doctor was allowed to talk four minutes only.

Samuel Bailey, Secretary,

William Horne, M.D., President.

Scott County Medical Society

At the annual banquet given by the Scott County Medical Society January 17 at the Outing Club, covers were laid for about 120.

Dr. William L. Allen acted as toastmaster and a number of informal talks were given. Dr. W. E. Foley spoke on The Family Doctor, in which he emphasized the service of the family doctor in this day of specialization. Dr. Henry Braunlich, one of the oldest physicians in Davenport, related his early experiences in an interesting manner, when there were no telephones and the doctor made his visits on horseback. Dr. J. E. Rock, the newly elected president spoke on The Future of the Society, stressing that the county organization will follow the plan of the American Medical Association for the education of the general public in medical matters. Mrs. P. A. White spoke humorously on The Doctor's wife, in which she told of the numerous telephone calls at the physician's residence, irregular meals and broken sleep.

Washington County Medical Society

The subject of Diphtheria occupied the greater part of the evening at the annual meeting of the Washington County Medical Association held Mon-

day evening, December 15, 1923, in the county health director, Dr. C. W. Stewart's office. Dr. Huston of Crawfordsville, assisted by some of the nurses at the Washington County Hospital demonstrated the Schick reaction test. Dr. Fry of Kalona continued the discussion along the line of the same malady, his particular subject being that of the use of toxins and antitoxins. Another paper was read by Dr. Baker of Stanwood.

The election of officers for the coming year was also an item of business attended to during the evening, Dr. Henry C. Hull of Washington, being made president, Dr. J. L. Frey of Kalona, vice-president, Dr. C. A. Boice, secretary-treasurer and Dr. W. L. Alcorn, Ainsworth, censor.

Woodbury County Medical Society

The Woodbury County Medical Society held its annual meeting at the West Hotel, Sioux City, December 10, 1923.

Dr. E. Gifford of Omaha delivered an address on Practice of Modern Day Physicians.

Officers elected for 1924 were: President, Dr. John Thompson; vice-president, Dr. John Dougherty; secretary-treasurer, Dr. Arch O'Donoghue; member board of censors, Dr. J. B. Naftzger.

Sioux Valley Eye and Ear Academy

Dr. S. A. Keller of Sioux Falls, South Dakota, was elected president of the Sioux Valley Eye and Ear Academy at the twenty-second annual meeting of the society, at the West Hotel, Tuesday afternoon, January 22.

Other officers were elected as follows: Dr. C. H. Fox of Kearney, Nebraska, vice-president; Dr. F. H. Roost of Sioux City, secretary and treasurer, and Dr. F. Hoff of Yankton, South Dakota, censor.

Following a luncheon at the Hotel West at noon, addresses were given by the following: Dr. F. E. Braucht of Fremont, Nebraska, Electric Modalities in Our Specialty; Dr. J. E. Reeder of Sioux City, The Blind in Iowa; Dr. F. W. Bailey of Cedar Rapids, Iowa, The Waring Suction Tonsillectomy Compared with other Methods I Have Used; Dr. S. D. Maiden of Council Bluffs, Iowa, Some Mastoid Complications; Dr. C. H. Fox of Kearney, Nebraska, Congenital Glaucoma and Dr. T. R. Gittins of Sioux City, Report of Twenty-eight Cases of Foreign Bodies Removed from Air Passages and Esophagus.

MEDICAL ASSOCIATION OF ISTHMIAN CANAL ZONE

The 203d meeting of the Medical Association was held at Santo Tomas Hospital on November 16, 1923, and the following program presented:

Occupational Therapy in the Treatment of Insane, by Capt. G. E. Hesner, M.C., U. S. A.; Eventration of the Diaphragm, by Lt.-Col. Roger Brooke; Pituitary Gland, by Dr. G. D. Sampson; Observations on the Chemistry of the Blood in Epilepsy, by Dr. D. G. Sampson and Mr. J. E. Jacob; presentation of cases

by Dr. H. J. Hayes, as follows: Progressive muscular atrophy, pellagra, with skin lesions, and cerebrospinal syphilis.

PRESIDENT BRITISH MEDICAL ASSOCIATION

Major General Sir David Bruce, F. R. S., was elected president of British Medical Association at its last session.

The meeting for 1924 will be held at Toronto, Canada.

MEDICAL NEWS NOTES

Twenty-five local physicians will serve two weeks each throughout the coming year, handling all emergency accident cases, according to an announcement from the Dubuque County Medical Society, following the January meeting Tuesday evening, January 8.

January 14, 1924.

Dear Dr. Fairchild:

At the last meeting of the Dubuque County Medical Society it was voted to instruct the delegate to favor increasing the annual dues in order to meet the expense of the Field Activities Committee as considered at the last meeting of the State Society. The members of the Dubuque Society felt that it would be well to publish the fact in the Iowa State Medical Journal in order to stimulate other county societies to "go and do likewise."

Dr. F. P. McNamara, Sec'y.

HOSPITAL NOTES

Broadlawn is the name of the new Polk County Tuberculosis Hospital, at Eighteenth and St. Joseph's, according to announcement of the board at the close of the special meeting Friday afternoon, January 11.

At the annual banquet and election of officers of Mercy Hospital staff, Clinton, the following officers were elected: President, Dr. Kurt Jaenicke; vice-president, Dr. George Hofstetter; secretary and treasurer, Dr. Herbert Brumer.

PERSONAL MENTION

A card of greeting was received from Dr. Thomas Duhigg from Amoy, China, on board U. S. S. Helena.

Dr. Julia F. Hill has just finished doing three months' work at the State University of Michigan. She made a clinical study of cases in the Psychopathic Hospital under the immediate direction of Dr. Albert M. Barrett. She has also visited at Kalamazoo, Detroit and Chicago, where treatment is given in occupational therapy. She is again assisting her father at "The Retreat."

Although Dr. W. A. Rohlf of Waverly was not able, by reason of his recent illness, to carry out his regular plan of observing his birthday by holding a big surgical and medical clinic, followed by an elaborate banquet in the evening, still he was pretty busy last Saturday, his birthday anniversary. During the early part of the day he was engaged in operations at Mercy Hospital in this city, and in the afternoon he accepted an invitation from his brother, Dr. Ed Rohlf, to go to Waterloo for dinner. Arriving there he was taken to Black's tea room, where more than forty physicians from various parts of the state were gathered to do honor to him. They had decided that this year was a good time to show Dr. Rohlf that they have appreciated and enjoyed the courtesies he has extended to them in times past. The affair was a complete surprise to him, and for a time he was well nigh overcome. Dr. E. R. Shannon of Waterloo acted as toastmaster, and after the dinner a fine program of toasts was given. A feature of the feast was a large birthday cake baked by Mrs. McDannell, wife of Dr. McDannell of Nashua. For many years the lady has followed this custom, and this year the beautiful and delicious confection was adorned with fifty-seven candles, one for each year of Dr. Rohlf's life. At the close of the banquet, Dr. Brinkman of Waterloo, in behalf of the guests, presented to Dr. Rohlf a handsome loving cup, intended to convey to him an idea of the esteem in which he is held by his fellow physicians and surgeons. To say that Dr. Rohlf appreciated this gift and the feeling which prompted it would be going just a bit farther than the doctor himself was able to do for a few minutes, so deeply was he touched. When he was able to express himself, he left no doubt as to the fervor of the gratitude he felt. With the exception of Dr. Osincup and Dr. Sparks who were unable to get away, all the Waverly physicians went to Waterloo to attend the party.—Waverly Democrat.

Dr. J. S. Weber was re-elected president of the North West Davenport Savings Bank.

Davenport Hospital received word from Dr. Sara E. Foulks that she was recovering from an attack of malaria in a Vienna hospital.

Dr. and Mrs. Eli Grimes will leave Saturday for the east and will take a five weeks' cruise to Havana, Panama, and visit the northern points of interest in South America during their absence.

Dr. J. A. Lamb of Le Mars was awarded the contract for doctoring the poor of the county, at a meeting the board of supervisors last week. The salary is \$1500 per year. Under the contract the doctor is obliged to give all necessary surgery work, medical attention, and to do x-ray work for his patients. District No. 3, which comprises Kingsley and adjoining townships, is not included in the contract unless patients from that district are taken to Le Mars for treatment. Dr. M. J. Joynt was reappointed examiner of the blind, by the board at its meeting last week. George Kelly was reappointed steward of the county farm.

OBITUARY

The Fellows of the American Medical Association will be saddened to learn of the death of William Whitford, the official stenographer of the Association. Members of the Western Surgical will recall Mr. Whitford's struggle at the Colorado Springs meeting. The high altitude placed a great burden on his already weakened heart.

For many years Mr. Whitford had reported the meetings of both the A. M. A. and the Western Surgical and had indeed been regarded as an essential part of these organizations.

His courtesy and kindness had endeared him to every member and his death will be felt as a personal loss to a multitude of medical men.

He died suddenly at Chicago, December 11, of myocarditis at the age of sixty-six years. He had been suffering from the disease several months.

William Whitford was official medical stenographer for the state, district, county and international medical societies, and was an honorary member of the Tennessee State Medical Society. A resolution commemorating him was passed by the board of trustees of the American Medical Association.

Dr. Roy F. Karney of Burlington died at Mercy Hospital, Burlington, January 8, 1924.

Dr. Karney was born in Brodhead, Wisconsin, August 14, 1882. Graduated from the Brodhead high school in 1903 and from the Northwestern University School of Medicine in 1907.

Dr. Karney located in Burlington in 1911 as surgeon for the Burlington Railway Company, but desiring a broader field of activity, he soon entered upon the general practice of medicine and surgery. During the war Dr. Karney served as the medical member of the draft board. From the time he first located in Burlington, his practice grew. It was soon recognized that his special fitness for the practice of medicine promised a broad field of usefulness.

About the middle of the year 1922 finding his health failing, he went to Colorado Springs, hoping that the change of climate and rest would restore his health, but in this he was disappointed, for on December 31st his condition becoming worse, he was brought home to die at Mercy Hospital, January 8. An attack of influenza several months before his death laid the foundation for a pulmonary disease, which proved fatal.

After his graduation from Northwestern he served an internship at St. Anthony's Hospital, Chicago. On September 7, 1910, he married Miss Mildred Kurtz, who survives him. He began practice in Galesburg, moving to Burlington in 1911.

Dr. Karney was a member of the Des Moines County, the Iowa State and the American Medical Association.

Dr. W. P. Hartford, 1222 Locust street, Dubuque, well known local physician, died at Finley Hospital January 23, 1924, at 2:30 o'clock. He had been ill since the previous Saturday.

Dr. Hartford was born in Kentucky, July 19, 1853, was educated in the schools in that state and was graduated in medicine from the University of Kentucky. He took post-graduate work at the Rush Medical School at Chicago, and for a period of thirty years before coming to this city he practiced his profession in Cassville, Wisconsin.

Nine years ago he came to Dubuque and with his quiet, unassuming disposition he won many friends, who learn of his passing with deep sorrow. He was a great man for charity, always giving aid to the needy. He is a past president of the Grant County, Wisconsin, Medical Association, a member of the Dubuque Medical Society, as well as many other local organizations. Besides his widow, he is survived by two sons, Neil and William; a grandson, Robert; several sisters and brothers.

Wednesday, January 2, 1924, at his home in Cedar Rapids, Dr. Albert J. Murch passed away and his body was taken to DeWitt, Iowa, for burial.

Dr. Murch was eighty-five years old last August, practiced medicine for more than forty years and was held in highest esteem not only as a physician but as a fine type of citizen. Advancing years being upon him, he gave up the practice of medicine about six years ago and moved to Cedar Rapids. Dr. Murch is survived by his wife and one son, Albert O., of Clinton. He is remembered with the most kindly feeling by his former patients because of his intense loyalty to them in their hours of suffering and pain. He was of the Homeopathic School of Medicine.

Dr. W. N. Moffett passed away at his home in Dike at 3:30 Tuesday morning, January 15, 1924. The funeral was held at Dike and the remains were taken to Grundy Center for burial. Dr. Moffett was past forty-nine years of age. He was born in Cincinnati, July 25, 1874. When nine years of age he moved with his parents to Grundy Center where he grew to manhood. He was a graduate of Coe College and took his medical course in the College of Physicians and Surgeons in Chicago, connected with University of Illinois. He practiced for a while in Owasa, but for the past twenty years has had a successful practice in Dike. He is survived by his wife, one brother, two sisters, Mrs. Adelaide M. Wood and Mrs. Chas. T. Rogers of Grundy Center. His death was due to cancer.

Dr. James Colvan Corsaut, a graduate of the College of Medicine, class of 1900, Iowa University, died at Independence January 6, 1924, a victim of a general breakdown in health. He had practiced at Dike, Iowa, and at Cedar Falls, Iowa, later, and was in the larger town, a practitioner, when he collapsed, and was taken to Independence for treatment.

The body was taken to the Fairview cemetery, near his old home town, Dike, and interment made there, during the last week.

BOOK REVIEWS

OBSTETRICS FOR NURSES

By Charles B. Reed, M.D., Obstetrician to Wesley Memorial Hospital, Chicago; 144 Illustrations, Including Two Color Plates. C. V. Mosby Company, St. Louis, 1923.

The author of this book has been influenced by a desire to present as full an account as possible of the facts involved. His objection to many books prepared for nurses is that much of the information that should be presented, is omitted, and to meet this objection a text-book form is employed that will include briefly the whole subject of obstetrics.

The first two chapters relate to the anatomy and physiology of the pelvic organs and the conditions of pregnancy. Chapter three, Normal Pregnancy. Chapter four, Hygiene of Normal Pregnancy. Chapters five and six, Abnormal Pregnancy. Chapters seven and eight, Preparations for Labor and Immediately After Labor. Chapter ten, The Normal Puerperium. Chapter eleven, Unusual Presentations and Positions. Chapters twelve and thirteen, Operations. Chapters fourteen and fifteen, Complications in Labor. Chapters sixteen and seventeen, The Abnormal Puerperium.

The remainder of the book is devoted to the Care of the Child. As will be seen from the contents presented, this book gives a full account of obstetric practice, and furnishes the trained nurse with the information needed as an assistant to the doctor.

A CLINICAL GUIDE TO BEDSIDE EXAMINATION

By Dr. H. Elias, Dr. N. Jagic, Dr. A. Luger of the University of Vienna, Austria. Arranged and Translated by William A. Brams, M.D., Chicago, Adjunct in Medicine, Michael Reese Hospital; Formerly Lieutenant Commander Medical Corps, United States Navy. Rebman Company, New York.

As stated in the preface, this little volume was prepared with a view to furnishing the physician and student with a guide for the physical examination of a patient at the bedside.

The authors first present a scheme of a Physical Examination at the Bedside, including Inspection and Palpation, Pulse, Respiration, Temperature. Then Special Forms, Increased Frequency, Decreased Frequency, Respiration, Types of Breathing, Special Forms of Breathing.

The physical examination considers, for instance, Types of Thorax, Abdomen and its Contents, Hyperesthetic Zones and Areas, Points of Pain, etc.

In the various examinations Palpation, Auscultation, Percussion and various means of obtaining information as to the condition of the several parts of the body.

This book will serve as a useful method of bedside examination arranged in such a manner as to secure a full consideration of all the facts that may lead to a diagnosis of the case.

THE NARCOTIC DRUG PROBLEM

By Ernest S. Bishop, M.D., F.A.C.P., Clinical Professor of Medicine New York Poly-clinic Medical School. The Macmillan Company, New York.

Dr. Bishop has devoted many years to the study of the Narcotic Drug Problem, and may speak with authority on a problem that is exercising the nation today, and like all reform measures, is mixed with ignorance and sentimentalism to a degree that demands the wisdom of the best minds. Since the passage of nation and state anti-narcotic laws, Dr. Bishop has written extensively on the subject, in an endeavor to correct many misstatements and to dissipate much real ignorance on the subject. The problem is of great interest to the medical profession, and in the interest of a large class of unfortunates, and in fairness to the public, this book should be extensively read.

THE ROCKEFELLER FOUNDATION

A Review for 1922. A Summary for the First Decade, by George E. Vincent, President of the Foundation.

This pamphlet of fifty-nine pages presents an outline of activities in promoting medical education and progress in different parts of the world. We are informed that, "During the past ten years, the Rockefeller Foundation has received from Dr. John D. Rockefeller a total of \$182,704,624. Its total disbursements have amounted to \$76,800,000, representing the income from year to year and \$17,500,000 appropriated from principal. In addition it has pledged future income to the extent of \$15,600,000."

Every country undertaking to develop real medical activities has received very substantial aid. The distribution has been directed by a board of skillful men, who have investigated every claim and have granted aid in a most discriminating manner. It is difficult for the medical profession to over-estimate the value of these gifts to medical progress.

RECENT ADVANCES IN MEDICAL EDUCATION IN ENGLAND. A MEMORANDUM TO THE MINISTER OF HEALTH

By Sir George Newman, K.C.B., M.D.; Hon. D.C.L.; F.R.C.P.; Chief Medical Officer of the Ministry of Health and of the Board of Education. Crown Nominee on the General Medical Council.

This brochure of 195 pages presents an authoritative outline of advances in medical education in England including all branches. To one interested in medical education this report will be of very considerable value.

THE FIRST HARVEY LECTURE

Dr. A. Biedl, professor of experimental pathology of the University of Prague, delivered the first Harvey Society lecture at the New York Academy of medicine, October 13, 1923. His subject was "Organotherapy."



Oliver James Fay, M.D.
President
Iowa State Medical Society
1923-1924

The Journal of the Iowa State Medical Society

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DES MOINES, IOWA, APRIL 10, 1924

No. 4

IOWA STATE MEDICAL SOCIETY

SEVENTY-THIRD ANNUAL SESSION

DES MOINES
MAY 7, 8, 9, 1924

Program

OPENING EXERCISES

Wednesday, May 7
9:00 a. m.

- Call to Order by the President—
OLIVER J. FAY, M.D., Des Moines
- Invocation—
DR. BURTIS R. MACHATTON, Des Moines
Pastor, Plymouth Congregational Church
- Address of Welcome for the City—
LEWIS SCHOOLER, M.D., Des Moines
- Address of Welcome for the Profession—
MATTHEW L. TURNER, M.D., Des Moines
President Polk County Medical Society
- Response—
EMIL C. JÜNGER, M.D., Soldier

SCIENTIFIC PROGRAM

- Section on Medicine—
Chairman, WILLIAM H. RENDLEMAN, M.D., Davenport
- Section on Surgery—
Chairman, CHANNING E. DAKIN, M.D., Mason City
- Section on Ophthalmology, Otology and Rhinology—
Chairman, WILLIAM F. BOILER, M.D., Iowa City
- Official Reporter, General Session—
MISS ADELAIDE FOLSOM, Ripon, Wisconsin
- Reporter, House of Delegates—
MISS IDA J. BRINTON, Des Moines

Wednesday, May 7
9:15 a. m.

1. Torsion of the Omentum—
EDWARD D. ALLEN, M.D., Hampton, *twenty minutes*
Discussion opened by LOUIS G. PATTY, M.D., Carroll, *five minutes*
2. Principles of Insulin Therapy—
DANIEL J. GLOMSET, M.D., Des Moines, *twenty minutes*
3. Practical Application of Insulin Therapy—
EDWIN B. WINNETT, M.D., Des Moines, *twenty minutes*
Discussion of papers Nos. 2 and 3 opened by FRANK J. ROHNER, M.D., Iowa City, *five minutes*

4. Syphilis in Surgery—

ERLE D. TOMPKINS, M.D., Clarion, *twenty minutes*
Discussion opened by PRINCE E. SAWYER, M.D., Sioux City, *five minutes*

5. The Diagnosis and Treatment of Neurosyphilis—
WILLIAM E. ASH, M.D., Council Bluffs, *twenty minutes*
Discussion opened by C. E. VAN EPPS, M.D., Iowa City, *five minutes*

Wednesday, May 7
1:30 p. m.

Symposium: Standardization of Treatment of Fractures

6. Fractures of the Skull—
CHARLES S. KRAUSE, M.D., Cedar Rapids, *twenty minutes*
7. Fractures of the Upper Extremities—
(Lantern Demonstration)
PETER A. BENDIXEN, M.D., Davenport, *twenty minutes*
8. Fractures of the Lower Extremities—
(Lantern Demonstration)
CHARLES E. RUTH, M.D., Des Moines, *twenty minutes*
Discussion of Symposium opened by DAVID S. FAIRCHILD, M.D., Clinton, *five minutes*
9. Address in Medicine: The Diseases of Twins—
ISAAC A. ART, M.D., Professor of Diseases of Children, Northwestern University Medical School, Chicago
10. A Preliminary Report on the Employment of the Buffer Solutions in Acid Intoxications and Acidosis—
(Lantern Demonstration)
FRIEDRICH A. HECKER, M.D., Ottumwa, *twenty minutes*
Discussion opened by JULIUS S. WEINGART, M.D., Des Moines, *five minutes*
11. What Constitutes Constipation, With Some Observations on the Colon—
PAUL B. WELCH, M.D., Cedar Rapids, *twenty minutes*
Discussion opened by WESLEY E. GATEWOOD, M.D., Iowa City, *five minutes*

3:30 p. m.

Meeting—House of Delegates
Hotel Fort Des Moines

Wednesday Evening, May 7
Social Entertainment

Thursday, May 8
9:00 a. m.

12. The Anatomy of the Appendix as Related to Acute and Chronic Appendicitis—
GEORGE M. CRABB, M.D., Mason City, *twenty minutes*
Discussion opened by EDWARD J. HARNAGEL, M.D., Des Moines, *five minutes*

13. The Treatment of Infections by Means of Transfusion—

ROBERT R. HANSEN, M.D., Marshalltown, *twenty minutes*
Discussion opened by CORAL R. ARMENTROUT, M.D., Keokuk, *five minutes*

Symposium: Gastric and Duodenal Ulcers

14. Diagnosis and Medical Treatment—

WILLIAM H. RENDLEMAN, M.D., Davenport, Chairman, Medical Section

15. Pathology and Surgical Treatment—

CHANNING E. DAKIN, M.D., Mason City, Chairman, Surgical Section

16. Splenic Anemia—

WILLIAM D. RUNYON, M.D., Sioux City, *twenty minutes*
Discussion opened by ADELIS A. JOHNSON, M.D., Council Bluffs, *five minutes*

17. Acute Endocarditis—

EDWARD W. MEIS, M.D., Sioux City, *twenty minutes*
Discussion opened by JOSEPH W. ROWNTREE, M.D., Waterloo, *five minutes*

Thursday, May 8

1:30 p. m.

18. The Life Insurance Examination—

GEORGE E. DECKER, M.D., Davenport, *twenty minutes*
Discussion opened by GEORGE E. CRAWFORD, M.D., Cedar Rapids, *five minutes*

19. The Diagnosis and Treatment of Tumors of the Bladder—

NATHANIEL G. ALCOCK, M.D., Iowa City, *twenty minutes*
Discussion opened by ALPHONSO J. McLAUGHLIN, M.D., Sioux City, *five minutes*

20. The Early Diagnosis of Pulmonary Tuberculosis—

LOUIS T. CURRY, M.D., Waterloo, *twenty minutes*
Discussion opened by HERBERT V. SCARBOROUGH, M.D., Oakdale, *five minutes*

21. Address in Surgery: The Philosophy of Surgery—

HUBERT A. ROYSTER, M.D., Raleigh, North Carolina

22. The Modern Trend in Obstetrics—

ADDISON C. PAGE, M.D., Des Moines, *twenty minutes*
Discussion opened by WILLIAM L. ALLEN, M.D., Davenport, *five minutes*

23. Carcinoma of the Cervix Uteri in Young Women—

HENRY J. HEUSINKVELD, M.D., Clinton, *twenty minutes*
Discussion opened by JAMES R. GUTHRIE, M.D., Dubuque, *five minutes*

24. Benign and Early Malignant Neoplasms of the Mammary Gland—

DONALD MACRAE, JR., M.D., Council Bluffs, *twenty minutes*
Discussion opened by WILLIAM JEPSON, M.D., Sioux City, *five minutes*

Thursday Evening, May 8

8:00 p. m.

25. President's Address—

OLIVER J. FAY, M.D., Des Moines

26. Address: The Study of Affections of the Nose and Throat with Special Reference to the Diagnosis of Affections in Other Parts of the Body—

(Lantern Demonstration)
EMIL MAYER, M.D., New York City, Guest of Section on Ophthalmology, Otology and Rhinolaryngology

Friday, May 9

9:00 a. m.

27. Hidden Causes of Sudden Death—

ARTHUR D. WOODS, M.D., State Center, *twenty minutes*
Discussion opened by CHARLES H. MAGEE, M.D., Burlington, *five minutes*

28. Abdominal Emergencies—

JOHN F. STUDEBAKER, M.D., Fort Dodge, *twenty minutes*
Discussion opened by J. FRED CLARKE, M.D., Fairfield, *five minutes*

29. Some Points in the Preparation of Material for Laboratory Examination—

MORTIMER HERZBERG, M.D., Sioux City, *twenty minutes*
Discussion opened by CASSIUS M. COLDREN, M.D., Milford, *five minutes*

30. The Work of the American Medical Association, Past, Present and Future—

FRANK BILLINGS, M.D., Chicago, Secretary Board of Trustees, American Medical Association

31. Disorders of the Sacro-Lumbar Region—

(Lantern Demonstration)

ARTHUR STEINDLER, M.D., Iowa City, *twenty minutes*
Discussion opened by W. EUGENE WOLCOTT, M.D., Des Moines, *five minutes*

32. Report of Transactions House of Delegates—

TOM B. THROCKMORTON, M.D., Secretary, Des Moines

OPHTHALMOLOGY, OTOLOGY AND RHINO-LARYNGOLOGY

Meeting Place—Hotel Fort Des Moines

Chairman—William F. Boiler, M.D., Iowa City

Thursday, May 8

9:00 a. m.

1. Interstitial Keratitis: Treatment, Results and Case Reports— JAMES A. DOWNING, M.D., Des Moines
Discussion opened by RALPH E. RUSSELL, M.D., Waterloo

2. Incipient Cataract—

GORDON F. HARKNESS, M.D., Davenport
Discussion opened by FRANK W. DEAN, M.D., Council Bluffs

3. The Subcutaneous Use of Old Tuberculin as a Diagnostic Aid to Ophthalmology—

HARVEY B. GRATIOT, M.D., Dubuque
Discussion opened by RALPH H. PARKER, M.D., Des Moines

4. Surgical Indications for Opening the Mastoid Cortex in Acute Otitis Media—

EDWIN COBB, M.D., Marshalltown
Discussion opened by ALBERT J. JOYNT, M.D., Waterloo

5. Haemangioma of Mouth and Pharynx: Treatment and Case Reports—

WAYNE J. FOSTER, M.D., Cedar Rapids
Discussion opened by THOMAS R. GITENS, M.D., Sioux City

1:30 p. m.

6. Early Diagnosis of Glaucoma—

ELMER P. WEIH, M.D., Clinton
Discussion opened by WILLIAM H. JOHNSTON, M.D., Muscatine

7. Mastoiditis, Acute, without Previous Middle Ear Symptoms; Report of Cases—

SYDNER D. MAIDEN, M.D., Council Bluffs
Discussion opened by GEORGE C. ALBRIGHT, M.D., Iowa City

8. Report of Four Rather Unusual Ear, Nose and Throat Cases—

SUMNER B. CHASE, M.D., Fort Dodge
Discussion opened by HARRY M. IVINS, M.D., Cedar Rapids

9. Septal Deflections and the Turbinates—

CHARLES P. FRANTZ, M.D., Burlington
Discussion opened by ROBERT S. REIMERS, M.D., Fort Madison

10. Osteomyelitis of the Mandible, Etiology, Treatment and Results—

R. A. FENTON, D.D.S., Iowa City (by invitation)

Emil Mayer, M.D., New York City, will address the General Session Thursday Evening on: The Study of Affections of the Nose and Throat with Special Reference to the Diagnosis of Affections in other Parts of the Body.

(Lantern Demonstration)

MEETING PLACES

Headquarters—Hotel Fort Des Moines, Tenth and Walnut Streets

General Meetings—Hotel Fort Des Moines, Ball Room

Registration and Exhibits—Hotel Fort Des Moines, Mezzanine Floor

Headquarters for Ladies—Hotel Fort Des Moines

Rules for Papers and Discussions

"No address or paper before the Society, except those of the President and Guests, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes nor more than once on any subject." "All papers read before the Society shall be the property of the Society." (Excerpts from By-laws.)

Each paper should be typewritten, and deposited with the Secretary when read; if this is not done, it will not be published.

On arising to discuss a paper, the speaker will please come forward and announce his name and address plainly.

Registration

Do not fail to Register.

Please bring your membership card for presentation at Registration Desk.

IOWA STATE MEDICAL SOCIETY OFFICERS
AND COMMITTEES 1923-1924

President.....	O. J. Fay, Des Moines
President-Elect.....	F. M. Fuller, Keokuk
First Vice-President.....	H. B. Gratiot, Dubuque
Second Vice-President.....	W. E. Long, Mason City
Secretary.....	Tom B. Throckmorton, Des Moines
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Term Expires

First District—R. S. Reimers, Ft. Madison.....	1925
Second District—D. N. Loose, Maquoketa.....	1927
Third District—A. G. Shellito, Independence.....	1926
Fourth District—Paul E. Gardner, Chairman.....	1924
Fifth District—George E. Crawford, Cedar Rapids.....	1928
Sixth District—W. F. Gray, Albia.....	1928
Seventh District—Channing G. Smith, Granger.....	1924
Eighth District—Samuel Bailey, Mount Ayr.....	1924
Ninth District—H. B. Jennings, Council Bluffs.....	1927
Tenth District—W. W. Beam, Rolfe.....	1926
Eleventh District—G. C. Moorhead, Ida Grove, Secretary.....	1925

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J. W. Cokenower, Des Moines.....	1925
W. B. Small, Waterloo.....	1924
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DELEGATES TO A. M. A.

Donald Macrae, Jr., Council Bluffs.....	1924
W. L. Allen, Davenport.....	1924
M. N. Voldeng, Woodward.....	1925

ALTERNATE DELEGATES

D. N. Loose, Maquoketa.....	1924
B. L. Eiker, Leon.....	1924
A. M. Pond, Dubuque.....	1925

COMMITTEES

Medico-Legal

D. S. Fairchild, Sr., Clinton.....	1924
H. B. Jennings, Council Bluffs.....	1925
W. B. Small, Waterloo.....	1926

Scientific Work

O. J. Fay.....	Des Moines
Tom B. Throckmorton.....	Des Moines
A. C. Page.....	Des Moines

Public Policy and Legislation

W. W. Pearson.....	Des Moines
B. L. Eiker.....	Leon
D. J. Glomset.....	Des Moines
O. J. Fay.....	Des Moines
Tom B. Throckmorton.....	Des Moines

Constitution and By-Laws

V. L. Treynor.....	Council Bluffs
C. B. Taylor.....	Ottumwa
Tom B. Throckmorton.....	Des Moines

Publication

D. S. Fairchild, Sr.....	Clinton
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Medical Library

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G. H. Hill.....	Des Moines
C. E. Holloway.....	Des Moines

Field Activities Committee

Iowa State Med. Society.....	W. L. Bierring, Chrm., Des Moines
Iowa State Med. Society.....	President-Elect F. M. Fuller, Keokuk
Iowa State Medical Society.....	B. L. Eiker, Leon
Iowa State Board of Health.....	R. P. Fagan, Des Moines
State University Med. College Faculty.....	N. G. Alcock, Iowa City
State Conference of Social Work.....	James F. Edwards, Ames
Iowa Tuberculosis Ass'n.....	Mr. T. J. Edmonds, Sec'y, Des Moines
Field Director.....	F. E. Sampson, Creston
Advisory Secretary.....	Tom B. Throckmorton, Des Moines

Your 1924 membership card will be your mark of eligibility to register at the Seventy-Third Annual Session, Des Moines, May 7, 8 and 9. Have you paid your 1924 dues to your local secretary?

ENTERTAINMENT**Wednesday, May 7**

Luncheon for Visiting Ladies at Wakonda Club,
One O'clock

Banquet, Hotel Fort Des Moines, physicians, their
wives and guests, Six-thirty O'clock

Thursday, May 8

Garden Party for Visiting Ladies at home of Mrs.
O. J. Fay, Two to Five O'clock

Bridge Party, Visiting Ladies, Oak Room Hotel Fort
Des Moines, Eight O'clock

Buffet Luncheon and Smoker following Scientific
Program

SCIENTIFIC EXHIBIT

Standard Chemical Company, Des Moines, Booth No. 1 and 2
Surgical Instruments, Supplies, Chemicals

Horlick's Malted Milk, Racine, Booth No. 3
Horlick's Milk Products

Frank H. Betz Company, Hammond, Indiana, Booth No. 4
Physicians' Supplies

Magnuson X-Ray Company, Omaha, Booth No. 6
X-Ray Apparatus and Intensifying Screens

Cameron Surgical Specialty Company, Chicago, Booth No. 8
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Victor X-Ray Corporation, Chicago and Des Moines, Booth 9 & 10
X-Ray Equipment, Physio-therapy Apparatus

Acme International X-Ray Co., Chicago & Des Moines, Booth No. 11
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Acme International X-Ray and Standard Sales Corp., Booth No. 12
X-Ray Equipment

Standard X-Ray Sales Corp., Chicago & Des Moines, Booth No. 13
New Type High Voltage Transformers and X-Ray Accessories

W. B. Saunders Co., Philadelphia, Booth No. 14
Medical Books and Publications

E. R. Squibb & Sons, New York, Booth No. 16
Vaccines, Serums and Antitoxins

Radium Chemical Company, Pittsburg, Booth No. 17
Demonstration Use of Radium

Medical Protective Company, Fort Wayne, Booth No. 18

Bolen Manufacturing Co., Omaha, Booth No. 23
Abdominal Supporters, Binders, Elastic Hosiery

Ground Gripper Shoe Company, Des Moines, Booth No. 23
Demonstrating Ground Gripper Shoes

Denver Chemical Mfg. Co., Denver Colo.
Antiphlogistine

Iowa State Medical Library

Iowa State Board of Health

100% ELIGIBLE PHYSICIANS MEMBERS

How many of the component county medical societies in Iowa can report 100 per cent eligible doctors members and with the 1924 dues paid to date?

The following have reported: Adair, Calhoun, Pocahontas.

Are there other county medical societies that can report? A larger number of the component societies have reported full payment for 1924 dues to date than have been reported in any previous year. Dues have been received from 2013 members.

If **your** 1924 dues had been paid, the number would be still larger. The 1924 membership card will be necessary for registration at the Seventy-Third Annual Session, Des Moines, May 7, 8, and 9.

Secure Your Hotel Reservations Now—For Hotels See Advertising Page VII

**STATE SOCIETY
IOWA MEDICAL WOMEN****TWENTY-SEVENTH ANNUAL MEETING
DES MOINES****Tuesday, May 6, 1924**

Headquarters—Chamberlain Hotel Rose Room

Morning Session**9:00 a. m.**

Called to Order by President—

JULIA F. HILL, M.D., Des Moines

Invocation— MISS LELIA WILSON, Secretary Y. W. C. A.

Greeting— JENNIE COLEMAN, M.D., Des Moines
President Des Moines Womens' Medical Society

Appointment of Committees—

Scientific Papers

(Fifteen minutes will be allowed for each paper)

Problems of the Rural Practitioner—

ZENELLA MORRIS, M.D., Stockport

The Shepherd-Towner Clinics in Iowa—

JOSEPHINE WETMORE RUST, M.D., Fort Dodge

The Unmarried Mother— MARY KILLEEN, M.D., Dubuque

President's Address—The Conservation of our
Mental Health

Discussion of papers lead by EPPIE MCCREA, M.D., CLARA
WHITMORE, M.D., MAE HABENICHT, M.D., and HELEN
JOHNSTON, M.D.

Annual Business Meeting**11:00 a. m.**

Luncheon, Younker's Tea Room, 12:30 P. M.

Afternoon Session**2:00 p. m.**

Luminal in the Treatment of Epilepsy—

GRACE SAWYER, M.D., Woodward

Address: (forty-five minutes)—

By a Guest of the Society

Why Save the First Teeth?—

ALICE CONGER HUNTER, D.S. (by invitation)

Vincent's Angina—

GRACE DOANE, M.D., Des Moines

The Menace of Drug Addiction—

ELEANOR M. HUTCHINSON, M.D., Rockwell City

Discussion lead by MARY K. HEARD, M.D., JANE WRIGHT,
M.D., JENNIE GHRIST, M.D., and NELLE NOBLE, M.D.

Dinner at Harris-Emery's**6:30 p. m.****OFFICERS**

President.....JULIA F. HILL, M.D., Des Moines
Vice-President.....EDNA SEXSMITH, M.D., Greenfield
Secretary.....JOSEPHINE RUST, M.D., Fort Dodge
Treasurer.....HELEN JOHNSTON, M.D., Des Moines

Military Surgeons Club annual dinner at Des
Moines Club, Thursday, May 8, 6:30 p. m. All ex-
service medical officers invited.

John H. Peck, Commander,
W. S. Conkling, Adjutant

THE SEVENTY-THIRD ANNUAL SESSION DES MOINES

During the second week in May, 7, 8 and 9, The Iowa State Medical Society will meet in Des Moines for its seventy-third annual session. The headquarters and meeting place for the general meetings, the special section for the eye, ear, nose and throat specialists, and the House of Delegates will be at the Hotel Fort Des Moines. Experience has proven that the meetings are more successful and free from confusion when held under one roof, and for several years past the Hotel Fort Des Moines management has cared for the members and guests of the State Society in a manner that has been commendable and appreciated by all. As a usual happening, the Des Moines sessions are far better attended, perhaps largely due to the central location of the city and its ready ingress and egress both by rail and highway. Indications are pointing to perhaps the largest attendance of any year, and the local profession is awake to its responsibilities in making welcome and caring for the many physicians, and their friends, who will be present during the three days' meeting.

For the first time in the history of the reorganized society, the members of the program committee all belong to the Polk County Medical Society. With the help of Dr. William H. Rendleman, of Davenport, Chairman of the Section on Medicine, and Dr. Channing E. Dakin, of Mason City, Chairman of the Section on Surgery, and Dr. William H. Boiler, of Iowa City, Chairman of the Section on Ophthalmology, Otology and Rhinology, the committee has endeavored to prepare the annual program published in this, the official Program Number of the Journal. A careful perusal of the contents of the program will assure the reader that the work of the committee has not been in vain and that the quality of the papers to be presented compare very favorably with those presented at any previous session. Only those who have ever been intimately connected with the duties of the Scientific Committee can realize the amount of work necessary to the bringing to a happy fruition the group of papers comprising the official program. Disappointments and delays oftentimes threaten to shatter the well laid plans of the committee and section chairmen, but eventually the emergencies are met in such a manner that a completed program is rendered in toto each year.

The guests of the Society this year are typically representative of Eastern, Southern and Mid-western Medicine. Through the efforts of Dr. William F. Boiler, of Iowa City, Chairman of the Section on Ophthalmology, Otology and Rhinology, the services of Dr. Emil Mayer, of New York City, were obtained as the guest of that section. Dr. Mayer will address the General Session on Thursday evening on "The Study of Affections of the Nose and Throat with Special Reference to the Diagnosis of Affections of Other Parts of the Body." This subject savors of possibilities and potentialities that every member may well heed; and, in conjunction with

the President's Address by Dr. Oliver James Fay, Des Moines, the evening of the second day bids fair to be one long remembered by those present to receive the scientific and literary pabulum prepared by these distinguished gentlemen.

Dr. Hubert A. Royster of Raleigh, North Carolina, will deliver the Address in Surgery—The Philosophy of Surgery—on Thursday afternoon. Those fortunate to secure seats or standing room will consider themselves well repaid for having listened to the discourse of this genteel southerner. Although having received his medical education in one of the best universities of the East, still those who know Dr. Royster agree that his life long residence in the South has preeminently qualified him to prepare and deliver an address in a style seldom, if ever, encountered outside the dominion of southern medicine.

To those blessed with the caring of twin babies, the address of Dr. Isaac Abt, of Chicago, on "The Diseases of Twins" will prove of great interest and benefit. For many years, Dr. Abt has held the chair of Pediatrics in the Northwestern University Medical School, and has always been considered an authority in his specialty. Recently, Dr. Abt has edited a System of Pediatrics which has no peer in the English language. Only those who are personally acquainted with Dr. Abt know his true worth and ability, and no one hearing him will go away disappointed.

On Friday morning, Dr. Frank Billings, of Chicago, will address the Society on "The American Medical Association—Its Past, Present and Future." For many years, Dr. Billings has been associated with our national medical association, and has been one of the wheel-horses of that body upon whom no load was ever too big to be carried. Some time following his year as President of the Association, Dr. Billings was placed in the responsible position of serving on the Board of Trustees, and, as Secretary of the Board, he is qualified, in every respect, to know of the work going on in the central office; and for this reason, the Program Committee felt itself very fortunate in securing Dr. Billings as a representative of the national association to meet with the Iowa profession and to explain the great program the American Medical Association is contemplating.

Without further comment on the Program as a whole, let it be stated that the Program Committee are cognizant of the cooperation of each and every contributing member, and takes this means of thanking all for the manner in which each one discharged the duty assigned him.

In conclusion, and in the words of Rudyard Kipling—"Lest we forget, Lest we forget," do not fail to bring your membership card. This will facilitate ready registration at the desk and will save unnecessary delay not only for yourself but for others. With this kindly admonition, come to Des Moines and enjoy three days of scientific medicine and good fellowship.

Tom B. Throckmorton, Secretary.

EPITHELIOMA OF THE FACE*

W. W. BOWEN, M.D., F.A.C.S., Fort Dodge

Of all epitheliomata, 70 per cent occur on the face, 6 per cent on the hand and the balance on various other parts of the body. Of the 70 per cent on the face 20 per cent occur on the lips, 13 per cent on the eyelids, 16 per cent on the nose and the balance on the ear, cheek, forehead, with a small percentage on the tongue and buccal walls.

Epitheliomata, or as Ewing suggests, epidermoid carcinomata would be a better name, are histologically of two distinct types, viz.:

1. Basal-celled epitheliomata.
2. Squamous-celled epitheliomata also called acanthomata.

The basal-celled epithelioma develops from the malpighian layer of the skin and are of two types, viz.:

1. The reticulated epithelioma.
2. The adenoid epithelioma.

The reticulated form becomes the rodent ulcer. The rodent ulcer develops anywhere on the face, nose, neck or ear. It begins as a small flat papule or smooth wart and remains in that condition a long time but breaks down into an ulcer which slowly enlarges until it may eat off a large part of the nose, ear and face. The ulcer is as a rule shallow, but there comes a time when it eats deeply until it reaches the bone or deep fascia, where it is checked for a long time but eventually it destroys these deeper structures. This is the so-called crater form ulcer. Like all basal-celled epitheliomata, it does not metastasize and in that sense is not malignant. But it finally destroys the patient though it is many years in doing it.

Any basal-celled tumor, including the rodent ulcer, may at any time have a squamous-celled tumor engrafted in it, especially at some portion of the margin, and the rodent ulcer has a habit of healing at one point while it advances at another.

The adenoid epithelioma is a basal-celled tumor which resembles adenoma, but is composed of basal cells with generally a mixture of squamous cells, and not of secreting cells like true adenomata. It, like the rodent ulcer, begins as a papule which breaks down into an ulcer which has little tendency to heal, although in the early stages frequently skin over and remain healed for a time only, to break down again. Often the ulcer edge is thickened a little and indurated, the center secreting a glairy liquid that crusts and becomes a black scab, which usually has a clean base under it when it is removed, but often there

is a drop of pus under it. Again the ulcer is raised above the surrounding skin, is soft and spongy, and reddish or brownish in color. The adenoid epithelioma like the rodent ulcer, does not metastasize early and usually not at all. Its clinical course, though, is more rapid and it kills the patient in a much shorter time, but even then it takes several years to do it.

All the basal-celled epitheliomata are easy to cure in the early stages. Removal with knife, actual cautery, or caustics, will cure them if done thoroughly, and even pastes will cure the most of them. Diathermy will cure them and x-rays or radium remove them readily and generally without any scar.

The basal-celled epithelioma is the reason for the numerous quack cancer cures and furnishes livelihood of cancer quacks, because this individual with his paste or caustic or whatever he uses does cure most of the basal-celled epitheliomata that he treats. The pain of the paste or caustic may be hellish but the patient gets rid of it without being cut and he is satisfied. He does not know the difference between his basal-celled epithelioma and a real cancer, neither does the charlatan for that matter, so the patient sends all the cancers to the charlatan that he can find, so where one non-malignant epithelioma or keratosis or even a simple wart is cured, many real cancers are tampered with and made worse and finally the poor deluded patient is sent to his grave, his suffering greatly enhanced by the treatment.

The squamous celled epithelioma (acanthoma) differs from the basal-celled in that it is far more malignant, metastasize early into the lymph channels and glands and destroy the patient in much less time, although even at that it takes generally a number of years to do so, though a few are rapidly fatal. They are generally single but sometimes multiple and may be found almost anywhere on the skin. In their early stages they may be marked by erythema, seborrhoea, eczema or pruritis (Ewing). They are also of two types.

The first appears as a warty growth in which condition it may remain for a long time—several years—but it slowly grows larger at the edges. In this stage it is quite amenable to treatment but later it spreads in size and ulcerates and metastasizes into the neighboring lymphatics. Then treatment is a serious problem.

The other type does not begin as a wart but as a depression which early becomes fixed to the underlying tissues and ulcerates early into the lymphatics and also early loses the squamous-celled appearance and takes on the appearance of tubular carcinoma. This type is very malignant

*Address of Chairman, Section on Surgery, Iowa State Medical Society, Ottumwa, Iowa, May 9, 10, 11, 1923.

and very fatal and destroys life much earlier than any other form of epithelioma.

All forms of epitheliomata when they metastasize do so into the nearby lymph vessels and glands and only rarely does metastases appear in distant organs. This is especially true of those of the face, mouth and tongue which metastasize into the neck glands and submaxillary glands elsewhere. These tumors ulcerate early and become infected with pus organisms especially streptococci so that local or general sepsis complicates the general course. Acanthomata are prone to develop where the skin joins the mucous membrane as on the lips and it is a clinical point worth noting that if an epithelioma begins on the skin surface of the lip it is far less malignant than if it develops from the mucous surface and it is apt to be very malignant if it develops from the inner side of the lip margin.

Epitheliomata sometimes develops from a bite of an animal or an insect. It is a constant claim that they develop from a point of irritation, a jagged tooth injuring the skin, the irritation of a pipe on the lip, the heat from smoking, the irritation of nicotine, etc., but the spectacle bow is a constant source of irritation yet rarely or never causes cancer, neither do finger rings, pressure of shoes, etc., and the udders of cows never develop cancer although they are subject to constant irritation in walking especially through brush and corn fields and are constantly bitten and punched by calves in nursing. Epitheliomata often develop from a chronic ulcer or scar and especially from ulcers or scars from x-ray burns.

Lupus is frequently hard to distinguish from epitheliomata, and not only that, but epithelioma commonly develops on an old lupus ulcer.

TREATMENT

As stated before basal-celled epitheliomata when they are small can be cured by almost any means used in the treatment of cancer, but no treatment should be tried for these that are inadequate for the most malignant cancer, because it is often a problem to determine without a microscopic section whether one is dealing with a simple non-malignant growth or a more malignant type, in fact this question is constantly before you in every case, and inasmuch as a microscopic examination cannot be made unless the growth or a part of it is removed with a knife, you have but the clinical history and appearance of the growth to guide you. Therefore only the most efficient method of treatment can be trusted.

Pastes and caustics have long since been discarded except by the charlatans. They are painful, inefficient and deceptive.

Operation is probably the quickest and most efficient cure, but it disfigures the patient and patients don't like to be disfigured. Then there is an inherent dread with most people to operation and especially to operation on the face, so the average person will submit to some other treatment long before he will submit to operation, and time—early treatment—is the most important factor in any method of treatment.

Actual cautery is an efficient treatment, even more efficient than the knife, but it is an operation and requires an anesthetic and leaves a disfiguring scar, so patients object to it even more than to the knife.

Diathermy is also efficient, but surgical diathermy or coagulation diathermy requires an anesthetic and it is an operation so all the objections to operation apply with equal force to diathermy.

Fulgeration is not sufficient to use alone, but is good treatment to use preliminary to other treatment. In my opinion fulgeration is the best treatment for simple warts and keratoses while x-ray and radium will not remove these non-malignant growths unless used to the extent that normal tissue will be destroyed. Fulgeration properly applied removes them promptly and without scars. An electric needle does the same thing with warts, but is not as efficient with keratosis.

X-rays will remove most of the epitheliomata of the face whether of the basal-celled or squamous-celled type, and without pain and usually without scar. When the treatment is properly applied and successful, the growth merely dries up and drops off or disappears leaving a smooth normal skin. I have had some cases that would not respond to x-ray treatment especially those that are raised above the surface of the surrounding skin and are spongy in appearance respond poorly.

I use one of two technics:

1. Four-inch gap 5 millies 8-inch distance for three minutes without filter. This will give an erythema and it is necessary to get an erythema to cure. I see the patient every week and repeat the dose in two or three weeks according to conditions and give in all, two to four treatments.

2. The second technic I use 7-inch spark gap, 5 millies 8-inch distance, 3 millimeters of aluminum and sole leather as filter and fifteen minutes of time. I repeat this once a week until a decided erythema is secured and then cease treatment and usually the growth disappears with the erythema.

The first technic I use in very superficial lesions, and in many skini diseases such as acne vulgarus; the second I use in deeper lesions.

In all cases no matter how the lesion is treated,

whether by cautery, knife, x-ray or radium, the neck glands are thoroughly treated with x-ray on both sides of the neck. For this I use 10-inch gap, 5 millies, 10-inch distance, one-half millimeter of copper and sole leather as filter and one-half hour on each side of the neck. This treatment is repeated two or three times at intervals of two weeks.

Radium is one of the most useful adjuncts we have in our armamentarium against cancer. It is not a cure all, and must be considered only one of the various means of combatting cancer. It does not take the place of operation although when used early enough it often removes the growth and so makes operation unnecessary, and in bad cases, often improves them so much that operation can be undertaken that otherwise could not be. Entirely inoperable cases will almost invariably be improved by its use for a time at least.

The technic of radium treatment has not been standardized to nearly the extent that x-ray treatment has, so practically every man has his own methods. There are in the main three methods of applying radium; surface irradiation with plaques or capsules or needles, subcutaneous irradiation with needles or capsules, and the use of radium emanation.

There is no emanation plant in Iowa and emanation tubes must be transported a long distance so that twenty-four hours or more are lost before they can be introduced into the patient, the most forceful portion of their radiation is wasted, so they are not practical.

Surface irradiation is applying radium to the skin. Either plaques are used for this, or else needles or capsules made into plaques. The dosage is not at all standardized nor are the kinds or amounts of filters nor the time of treatment. I use no filters at all, depending upon distance entirely, that is, raising the radium a certain distance from the skin. Directly upon the skin a piece of rubber is placed and then a layer of gauze or felt 1 c.m. thick and over this the radium. If a small area is to be treated the skin is covered with a fine piece of lead with a hole in it a little larger than the growth. The lead is so placed that the growth is in the center of hole, then the rubber tissue, then the gauze or felt, and lastly the radium. Although the radium casts rays many hundred feet and penetrates several inches of lead the effective distance for treatment is only two and one-half c.m.

I have not always secured the best results from surface irradiation. I find that the skin is far more susceptible to radium rays striking it from the outside than from beneath, that is, it will stand much longer treatment when the radium is sub-

cutaneous than when surface irradiation is used; besides many of the rays are absorbed in the skin when applied externally and less of them reach the growth while the radium is subcutaneous, all the rays reach the tumor and less of them reach the skin.

If the tumor is raised above the surrounding skin, and in most other growths also, I place the radium subcutaneously. For this needles are used. First a small area of skin is injected with a local anesthetic—novocain—and the needles thrust through the base of the tumor and out of the skin on the opposite side. The needles are placed 1 c.m. apart and enough are used to circumscribe the whole growth. If the tumor is large, I first surround it with a circle of needles thrusting them under the skin where the tumor joins the skin, placing them end to end around its circumference. If I have not needles enough to complete the circumference, I leave what I have in position for three hours and then move them to another portion of the circumference for another three hours. After the tumor has been circumscribed and every portion treated three hours, I then attack the center placing enough needles so that every area of one centimeter in diameter had had a needle three hours. This whole process may require several days but it is called one treatment.

There is one fundamental principle involved in both x-ray and radium treatment, and that is, one lethal dose must be administered. You may be several days or even longer in giving that killing dose. But if you do not give enough to kill the tumor, you merely stimulate its growth. The problem always is, to give enough to kill the growth but not enough to destroy the surrounding tissue. And the theory of radiation treatment is this: radiation destroys embryonic cells much more easily than adult cells, and malignant growths are made up of embryonic cells, therefore it is possible and practicable to kill all the tumor cells, and destroy few or none of the normal cells.

EPITHELIOMA OF THE LIP

Epithelioma of the lip is nearly always squamous-celled. When basal-celled cancer occurs, it is mostly on the upper lip. They metastasize in the submaxillary glands and rarely anywhere else. Only 1 per cent metastasize in other parts.

Those that originate on the skin surface of the lip are less malignant than those that begin on the vermilion border and still less so than those that begin on the inside of the lip. There are three stages:

1. Those without glandular enlargement under the jaw.

2. Those with moderate enlargement.

3. Those with extensive enlargement.

Those that have no glandular enlargement are comparatively easily cured. We all remember cancers of the lip that were removed by having a wedge cut out of the lip and remained cured. These were all epitheliomas of the first stage.

X-ray will also cure these, also diathermy, but I have found some that will not respond to x-ray treatment. Radium will cure them all, but I have not had as good results with surface radiation as some other men have claimed. I treat them with needles. If the tumor is small, I thrust a 12½ milligram needle through the center of it deep into the lip and leave it there three hours. If the tumor is large, I use two or more needles for the same length of time, and always x-ray the glands under the jaw on both sides thoroughly. Both sides must be x-rayed because the metastasis is on the opposite side from the tumor. Simply because the glands are not palpable is not assurance that metastasis has not already occurred. It may have occurred and the metastasis still be merely a few cells and the x-ray treatment will kill those few cells.

If the growth has reached the second stage and the glands under the jaw are enlarged, I should use radium or x-rays on the tumor and then remove the tumor with a knife and then dissect out the glands under the jaw through a horse-shoe shaped incision, following the inner margin of the jaw, and then x-ray thoroughly afterwards.

The third stage where the glands are large is a hard problem and practically all such patients die, however they are treated. It is a question whether to merely palliate with them or try a radical cure as has just been described. The probabilities are that the average length of life will be longer if they are not operated at all.

There seems to be an opinion in the profession that all cancers of the lip can be cured if seen and treated early enough, but from my experience, I am convinced that there are a few that no matter how early and how thoroughly treated will go on and kill the patient.

EPITHELIOMA OF THE EAR

Epitheliomas of the ear are generally as easily handled as epitheliomata anywhere else. They are mostly of the basal-celled type. There is just this point of difference, if the cartilage is invaded by the growth neither x-ray nor radium will remove it. Nothing short of complete excision will cure it. This is true of cartilage on the nose or anywhere else.

RECAPITULATION

1. Epithelioma.

1. Basal-celled.

a. reticulated or rodent ulcer.

b. adenoid epithelioma

2. Squamous-celled or acanthomata (Ewing).

a. that beginning as a papule and which is moderately malignant, more so than any basal-celled form.

b. that beginning as a depression or ulcer and which is very malignant.

2. There are various forms of treatment for epitheliomata, pastes, caustics, actual cautery, diathermy, fulgeration, but the main reliance is x-ray, radium and operation, but none of these is sufficient alone.

3. Implantation of radium needles is more efficient in my hands than is surface irradiation.

4. In all cases no matter how treated, the neck glands should be x-rayed.

5. Lip cancer can be divided into three stages:

1st. Small tumor on the lip with no glandular involvement. The best treatment for this is probably radium needles.

2nd. Tumor with small enlargements under the jaw. This should be treated with a combination of radium, x-ray and excision including all the glands under the jaw, and then have a fairly good chance of recovery.

3rd. Considerable tumor or ulcer on the lip and considerable enlargement of the glands under the jaw. This has little promise of cure by any treatment, probably palliation will give more comfort to the patient and cause him to live longer than any operation.

6. Epithelioma involving cartilage must be excised.

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THE MANAGEMENT OF CANCER OF THE BREAST*

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At the present time the radiologist is probably seeing more cancer than anyone else. His opportunity for study of the disease is great, and his obligation to consider the cancer problem in all its various phases is even greater. In the treatment of cancer, his objective is the same as that of the surgeon, to cure his patients if possible, and failing that, to prolong the time they can live in comfort. Both the surgeon and the radiologist have learned that instead of being competitors they must join forces in the battle against cancer, and that the work of each must be supplemented by and dependent upon that of the other. It is perhaps permissible, then, for a radiologist to discuss a few points in the management of breast cancer, not only as they apply to the practice of his own art, but also as they apply to the more general problems of operability, the time and selection of the operation, and prognosis.

Theoretically, deaths from cancer of the breast should be few. The location of the growth renders its early discovery almost certain. In enlightened communities such as ours almost every woman who can read knows that a lump in the breast may be cancer. Every physician knows that the only weapons we have against breast cancer are surgery and x-rays, and that to be effective, surgery must be early and radiation thorough. It is the rule rather than the exception that the patient seeks advice early and is properly urged to submit to operation. In spite of all these things, however, deaths continue to exceed recoveries in this disease. A search of our records shows that in the fatal cases there is a wait of from three months to two years between the discovery of the primary tumor and submission to operation. It is delay that is responsible for the death of the patient. Her chance for life depends more upon the time of operation—that is, before or after metastasis takes place—than it does upon the skill of the surgeon, the choice of the operation or the type of the tumor. The same records also show the reasons for delay, and that they can be classified in two groups. In the first group, fortunately a small one, the physician from whom the patient sought advice has said, "We'll watch it a while. We'll not trouble it unless it troubles you." That physician is hopeless, and that patient is helpless. In the second group the patient says, "I was afraid I had a cancer, and I knew

that if I was operated upon and the operation was not successful, I wouldn't live very long," or "I knew I would be crippled for a long time after the operation and I wanted to wait until my daughter finished school," or something of the kind. These patients fear the radical operation and postpone it until their condition is well nigh hopeless. They believe, first, that it may spread the disease, and second, that it will cripple them. Can anyone deny that they are justified in both beliefs?

Since the greatest danger to the patient's life lies in delay, and since the reason for delay is usually the patient's fear of the dangerous and crippling radical operation, it seems reasonable to believe that abandoning the radical operation, and depending upon a simple excision or amputation with subsequent x-ray treatment is a life saving procedure. It is obvious that if cancer is confined to the breast, amputation is all that is necessary. It is equally obvious that palpable supraclavicular glands, or x-ray evidence of the presence of mediastinal metastases, render futile any operation except simple excision of the primary growth. I believe that little is gained by surgical invasion of the axilla, even in cases showing beginning enlargement of the axillary lymph glands, and I believe that these patients will have a longer and more comfortable life if the primary tumor only be excised and x-rays be depended upon to control the axillary, supraclavicular, and mediastinal extensions. I offer the following points to support this belief:

1. A conservative plan of treatment which will reduce the immediate operative mortality and tend to remove the fear of a crippling operation from the minds of the laity, will induce them to submit to operation earlier in the course of their disease.

2. It is not always possible to differentiate between inflammatory enlargement of the glands and carcinomatous involvement. If microscopic examination shows that the glandular enlargement is merely inflammatory, their removal has been unnecessary.

3. The most careful and expert block dissection often fails to remove all the glandular tissues from the axilla. If any cancer cells are left, it is evident that no good has been accomplished, and actual harm may be done by opening up fresh avenues for extension, and stimulating the production of recurrences.

4. The amount of x-rays which the axilla and chest of the patient should receive is the same whether or not an attempt is made to remove the axillary glands.

5. Complete removal of axillary extensions is

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too rare an accomplishment to compensate for the additional suffering from neuritis, edema and loss of function which results from the average routine block dissection.

With regard to x-ray treatment of breast cancer, the radiologist must always have clearly in his mind what he is attempting to do. Inasmuch as the presence and extent of metastases cannot always be definitely known, it seems proper to assume that they may be present in any part of the chest in every case. It follows, then, that routine post-operative x-ray treatment should be the same in all cases, regardless of the stage, type, and extent of the disease, and that it should consist of a rational endeavor to deliver to every part of the chest a dose of x-rays large enough at least to inhibit the growth of cancer cells. The attainment of such an endeavor has been made possible by increasing the focus-skin distance, size of fields treated, filtration, and voltage. Certain factors, especially distance, filter thickness, and time can be varied advantageously according to the size of the patient.

The use of ultra modern transformers, capable of delivering 200,000 volts or more, permits homogeneous radiation of the chest in a shorter time and with less injury to the skin than was possible with former types of apparatus. Nevertheless, if the radiologist will spend enough time and the patient can bear the expense, it is possible to radiate the chest thoroughly and evenly with the so-called "ten-inch" transformers.

Preoperative x-ray treatment is only useful, I believe, when the physician has the absolute confidence of the patient and there is no danger that she will postpone the operation in the hope that the shrinking of the tumor resulting from the first massive dose of x-rays indicates that the cancer has been destroyed.

From intensive radiation of patients with operable breast cancer we can reasonably expect an increase of at least 25 per cent in the number of patients alive five years after operation over those treated by surgery alone. In the inoperable cases we can expect destruction of superficial metastases and shrinking of the primary tumor. A small percentage of this class of cases can be rendered operable, at least to the extent of permitting the removal of the primary tumor. In the obviously hopeless cases radiation will often prolong the period of comfortable life, and will almost always prevent breaking down and ulceration of the tumor, with its attendant pain, foul odor, and mental anguish.

Discussion

Dr. Thomas A. Burcham, Des Moines—In discussing this paper there is no use mentioning one point

referred to by Dr. Erskine—early operation. That has been decided long ago and there is no controversy between any class of individuals treating cancer in regard to whether the patient should be operated on early or whether the case should be allowed to slide along. That question has been discussed before this and every other medical society and they are all in full accord as to the necessity of early operation of all cases of cancer, and especially cancer of the breast. Dr. Erskine has made a plea that the surgeon avoid the axilla in cases where metastasis has occurred. That is a question which I believe each surgeon will have to decide for himself. Personally, I can only speak of the difficulties which we encounter in treating post-operative cases of carcinoma of the breast, especially the cases with swollen arms which come to us in very great pain. It is impossible to raise the arm and get a large dose of x-ray into the axilla and we are delayed from four to six weeks, and sometimes it is impossible to get the arm up sufficiently to deliver a dose to the proper area in the axilla. Those of you who have been doing x-ray therapy have seen superficial carcinoma nodules disappear under the influence of x-ray. If it is possible to have the superficial nodules disappear, then it also would be feasible and possible to have metastasis in the axilla disappear under the influence of x-ray. And if you do submit your patient to x-ray and operation, in order that the rays will have some influence on the tumor mass in the neighborhood of the axilla in the production of connective tissue formation which is brought about by the action of the x-ray. This cannot take place in a few days. The maximum effect is not immediate, it occurs ten days to two weeks after the administration of the x-ray and even longer than that in producing connective tissue formation. We have also seen the superficial healing of the sloughing tissues. That is not curing the carcinoma, but it is making the patient more comfortable and cleaning up the stinking mass which the friends have to live with. There are very few cases of recurrent carcinoma that break down to the point of suppuration if given proper x-ray treatment. We have recurrence following surgical operation of patients who have received x-ray treatment, and the question of percentages as to whether they are to have more recurrence following x-ray treatment or not is one that has not been fully decided. If you can bring that percentage down at all, and if you can prevent a sloughing, stinking sore, you have accomplished much. Dr. Erskine mentioned high voltage. The question of high voltage has been discussed, and you have all wondered why we speak of high voltage and what we are trying to do with it. With the physicists who study the action of x-ray and radiation on carcinoma cells, it was thought that a shorter wave would give a more beneficial result in carcinoma, and the only way you can shorten the wave length of x-ray coming from the x-ray tube is by increasing the voltage. As you shorten the wave length you have a more penetrating ray, you have one that travels faster. However, this phase of the

work is going through an experimental stage and there is nothing to prove that the high voltage is going to do any more than a voltage of 100,000 in comparison with 200,000 provided sufficient time is given. The only thing you are doing by means of the high tension from 200,000 volts is decreasing the time and shortening the wave length. Now, I am not saying that this is absolutely not beneficial, but it certainly is a great time saver.

Dr. Donald Macrae, Jr., Council Bluffs—I am very glad to find that finally radiologists have decided not to interfere with surgery in the early treatment of carcinoma of the breast. We can be thankful for that, because a short time ago they would not agree to it. In some cases it is very difficult to determine early whether or not we have a carcinoma. Sometimes even the surgeon, unless markedly experienced, has considerable difficulty in determining by the macroscopic appearance of the growth he has removed whether or not the tumor is a carcinoma. If the argument these men put out is true, it seems to me we should not touch the axilla. Why touch the breast surgically at all? A carcinoma is a carcinoma, and if in the axilla and they can see the condition there to the extent they seem to claim, then it seems to me they might as well take entire charge of the case. During the past year I have known of five or six cases in which the patients were ready for and had been advised to have radical operation, and two of whom were to be operated in a very short time, but in each case a specimen was removed and frozen section made which showed the condition to be actually benign. I am satisfied that in many benign cases the operator goes too far. We should depend on a microscopic test to determine the nature of the growth before doing a mutilating operation. However, if we attack carcinoma early we must attack it with all the force we have. We should not, in my opinion, stop with removal of the breast. Pathologists may in the future tell us that the process is confined to the breast, but for the present we should be radical in removing every tissue that is involved. I am sure that I have seen more cases of recurrence since postoperative x-ray treatment has been instituted than ever before. It seems to me that operation in an early case of carcinoma of the breast is the ideal procedure. I want these cases at a stage when the growth cannot only be palpated, but when I feel that everything has been removed and the axilla is not involved, I then advise against radiation. I cannot conceive it possible to kill the tumor cells in all parts, neither can we be sure that every carcinoma has been completely removed. Why do these cases come back in a few years? Is it another carcinoma, or has a cancer cell been left lying around? If the carcinoma cell, whether in the lung, the spinal cord, or wherever it may be, is asleep, let it alone, because if you do not succeed in the effort to kill it with the x-ray you are going to start it growing. If I knew there was a carcinoma cell in the body any place where I could mark it out and tell the x-ray man to shoot it, I would try it. But

where they are giving this shotgun stuff and not aiming at any particular object, the cells will be stimulated by radiation and start proliferating. I want to put myself on record (and I have many friends who agree with me in this) that following operation for early carcinoma we have seen more recurrences after the postoperative x-ray treatment than we have ever seen before. If in discussing this subject I have done nothing more than start something. I have accomplished a great deal. Please remember I am not discussing superficial skin troubles or advanced cancer in any location. I am discussing subdural carcinoma in the early stage.

Dr. M. L. Harris, Chicago—I am not a good one to discuss the use of x-ray in the treatment of carcinoma of the breast because I am too pessimistic on that subject. I certainly must disagree with the essayist on the recommendation to allow the axilla to go unoperated on. There was no improvement made in the treatment of carcinoma of the breast from the time of Billroth when he said if 10 per cent were cured of cancer of the breast by surgical operation it was a good result, until the operation was extended to the axilla, and since the advent of the radical operation of carcinoma of the breast with removal of the axilla the cures are now 50 per cent. I am sure you will agree that this is some improvement. I am in favor of the most thorough operation possible, nor do I agree that these cases come out with swollen arms. They did a few years ago, but today, after the most thorough removal of cancer of the breast with all structures including the axillary contents, swelling of the arm is a rare thing to see. In the recent past I have turned over my cases postoperative to the x-ray man and still do at times, but my experience is not very encouraging. I have had these cases x-rayed by the best men in Chicago, and in place of seeing carcinomatous nodules in the skin fade away under the use of the x-ray I have seen them grow with remarkable rapidity and the patient die very quickly right under the use of the x-ray. I am not prepared to say that the x-ray does no good, but I must be shown, and in talking it over with x-ray men in Chicago, which I have done many times, I must say that the one who does my x-ray work is just as pessimistic as I am in regard to x-ray treatment of recurring carcinoma of the breast.

Dr. J. F. Herrick, Ottumwa—Sometimes we forget that when cancer has once gotten away from us, it is no use to try surgery, x-ray, radium, or even Abraham's treatment. Therefore the situation is this: If carcinoma can be completely removed, there is no question but that such removal is the best treatment. If carcinoma cannot be completely removed, or if you have no means of determining whether it can be completely removed, then the trouble comes. If you believe you have removed it completely, but there still lingers a fear you have not done so; is there anything to do? That is the question. As regards those growths that can be completely and readily removed, there is no ground for discussion. They should be completely removed.

The axilla should, in my judgment, be cleaned out, but here is a case where experience teaches that the chances are nineteen out of twenty that it may not be complete, that you are likely to get metastatic developments. Then what are you going to do? Personally I believe that removal of the primary seat is about as much as surgery can accomplish in those cases. Can the x-ray do more? Personally my feeling is, that the x-ray does do good. For instance, a case of carcinoma of the breast that had entirely destroyed a large breast and all the tissues on the chest wall, and in which the woman was going down rapidly; under x-ray treatment the disease was checked, the ulcers healed, and as a result of the treatment the woman lived for six or eight years in comfort. She died of carcinoma I admit, but she had six or eight additional years of comfortable life. This is a matter of personal experience. On the other hand, when carcinoma reaches the point where you have multiple carcinoma in any part of the body, x-ray nor any other thing will cure it. Sometimes the x-ray will mitigate the pain. Here, for instance, is a woman with most agonizing pains in the arms and legs from carcinoma of the spine. The x-ray will generally completely relieve the pains. I say that with knowledge coming from experience. So the x-ray is worth while. It does not cure the disease, but it mitigates it and renders the patient comfortable until metastases to other parts destroy life. If the process has gone beyond a certain point there is no use trying anything with the expectation of a cure.

Dr. William Jepson, Sioux City—Until the radiologists can show a better percentage of cures than 48 or 50 per cent, they should not ask us to endorse x-ray treatment in cancer of the breast.

Dr. A. L. Yocum, Jr., Chariton—Perhaps you would like to hear from another x-ray man. In the last fourteen months I have used some of the high voltage to which Dr. Burcham and Dr. Erskine have referred. I had seen tumors of the breast that surgeons had always called malignant—retracted nipple attached to the skin—completely disappear under high voltage alone. I fully believe that pre-operative radiation is the best opportunity given to the suffering woman for cancer of the breast, and if this tumor does not disappear within three months the breast should be removed.

Dr. E. C. Junger, Soldier—Just one word in regard to carcinoma of the breast, and that is, my experience is that the only patients above the ground are the ones that were operated on just as soon as the nodule was noticed. The others, whether the breast only was removed or the axillary glands also, are all gone.

Dr. Erskine—I have no idea of becoming controversial at all. Dr. Macrae's question, "If x-ray will do something for metastasis why touch the breast surgically at all?"—can be answered very simply. As every one who has attempted seriously to treat malignancies with x-rays or radiation of any kind knows, it is much more difficult to influence a primary tumor than it is a metastasis. That is also

one reason why I feel that preoperative raying should be done only when the physician has the absolute confidence of the patient, because the metastases may disappear, the primary tumor may shrink, but there comes a time when this effect ceases. Unless we have that patient's confidence to such an extent that she will believe us when we say, "Now is the time to operate," it is better not to wait four to six weeks when operation is really the only thing that saves life. Both Dr. Macrae and Dr. Harris seem to have received from this paper of mine an idea that I believe, or that radiologists in general believe, that metastatic cancer of the breast can be cured by x-rays. No, nor by anything else. We can make the patients live a little longer, perhaps, and make their lives a little more comfortable, a little happier, but that is all. Dr. Harris takes advantage of post hoc, ergo propter hoc, in saying that the present 50 per cent recovery rate in cancer of the breast is due to the radical operation. It is true that an increase in the recovery rate followed the institution of the radical operation. Whether it is due to that, or whether it is due to the fact that more cancers of the breast are now operated upon when the tumor is primary, is quite a question. The thing that cures these patients, if one can speak of cure in this connection, is the fact that they are operated upon while the tumor is a primary growth. I think we are justified in sacrificing a great deal to advance the time of operation three months.

END RESULTS IN SUPPURATIVE OTITIS MEDIA*

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In collecting data for this paper I have been impressed by the fact that authors and essayists, with rare exception, treat classic cases, presenting a precise etiology and symptomatology, with complete laboratory data, beginning with the period of incubation in patients submissive to every therapeutic effort.

These abstract cases furnish valuable guides for study and useful examples for suggesting an ideal therapy. If our patients all came at the beginning of their troubles and yielded to every detail of treatment under hospital care, a fairly routine treatment could be adopted, and uniform end results anticipated, having thoughtful regard for etiology and complications.

It is not the purpose of this paper to cover the field of complications following suppurative otitis media. The more grave and rare complications will not be mentioned. Nor is it in mind to pay much attention to the favorable case that runs earache drainage, profuse drainage, lessened

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drainage, closure of perforation, and complete restoration of hearing.

A large class of cases which are worthy of special consideration are those that run about the same from day to day, with slight fluctuations. They have no tenderness over antrum nor mastoid cells. The temperature is normal, or occasionally rises to 99.5. Patient feels well and wants to be about his usual work. Transillumination may be below normal, but the x-ray shows mastoid cells intact. The infection is staphylococcic. Leucocyte count is ten to fifteen thousand with normal proportion of polymorphonuclears. Such a history continues with variations for more than one week. If these patients remain ambulatory they split into two large classes—one class that develops a surgical mastoid and the other class with the offensive wet ear.

On the other hand if these cases are hospitalized, with free paracentesis, hot or cold applications as indicated, kept warm in bed with light diet and catharsis, they almost unanimously recover with normal function.

There are so many cases of suppurative otitis media, and their prognosis so dependent on early and proper treatment that it seems worth while that otologists lose no opportunity to teach patients and physicians that time is the essence of treatment in this disease. It is the general rule that these patients are grossly neglected during the period when they would yield most promptly to treatment. Many parents presume that the child is well when the ear stops aching. Or what is worse they drop in rancid olive oil and place a cotton plug in auditory canal to inhibit drainage.

Society no longer respects nor tolerates the physician who treats so negligently other cases of suppuration. Can it be that this discrepancy is due to the neglect of otologists? The general practitioner has instructed the laity until the laity are now surgically wise as to appendicitis. How infinitely easier it should be for us to teach family physicians that pus in the head is as bad as pus in the belly, and should be treated with like reverence. Of course, we don't value the head as much as the belly, but the comparison is still good.

It has seemed to me that the tendency is too general to think of prognosis in ear diseases in terms of mortuary statistics. Of course, death of the patient is the worst that can happen, but a dead ear on a live patient is very bad, particularly when the dead ear is poorly embalmed. Loss of hearing makes the average patient hate himself and lessens his usefulness to society. He is not only in constant danger of personal injury, but his deafness endangers others.

There are two phases of the treatment of suppurative otitis media that are so important that they deserve special consideration. There is still considerable difference of opinion as to the indications for paracentesis. Some eminent authorities have been ultra-conservative. They believe that with paracentesis new infection gains access to the middle ear. Then there are others who advocate immediate paracentesis on the advent of earache. Their defense is that paracentesis relieves pressure and thereby limits the spread of infection. I am inclined to the latter view.

Paracentesis has too often been carelessly, unsurgically, and insufficiently performed. It is so quickly done that the temptation is strong to do it with local anesthesia. Cocaine will completely anesthetize a normal ear drum which does not need opening. But when the drum is congested and under pressure, stronger application must be made—the most common is equal parts menthol, phenol and cocaine. It's the phenol that does the business and I think it is a vicious remedy to use on an ear drum.

It does not always seem practical to give a general anesthetic for a paracentesis, but whenever I have compromised I have almost universally felt that the patient did not get the best possible. Stabbing an ear drum "sight and unseen," with the uncontrolled patient jerking and twisting from the pain that cannot always be controlled, is indefensible. It cheapens the procedure and suggests to the untrained that it is neither delicate nor difficult.

But there is another procedure very often overlooked in the drainage of the middle ear. Be it remembered that the middle ear is for all practical purposes one of the accessory sinuses, with drainage through the Eustachian tube. What can be the possible defense for making an unnatural drainage of the middle ear through the drum and neglecting to attempt establishment of the natural drainage through the Eustachian tube?

For the purpose of giving adequate natural drainage the adenoids, or remnants of adenoids, should be most carefully removed—first with curette, then with gauze over the finger, and concluded by careful examination with uncovered finger. If the patient is of cooperative age, post-operative drainage should be favored through the Eustachian tube by suction. The tonsils should be removed, but not until patient has recovered from symptoms of acute infection.

The end results in suppurative otitis media are often disappointing, because the patient considers himself cured when there is no longer pus in the external auditory canal. This misunderstanding should be corrected. Often the opening in the

drum does not close. With the inflammation out of the drum touching the edges of the opening with 10 per cent silver will often encourage closure. Return to normal is encouraged by massage of drum and inflation of middle ear alternate days for a couple of weeks. Patients should not be allowed to wear cotton in the ears after drainage has lessened.

If patients will cooperate in the treatment audition should become normal in a very large percentage of these cases.

There is another large class of patients. They are constituted principally by those who have neglected the acute infection. They have a scant but almost constant discharge of pus into the external auditory canal, and after an acute rhinopharyngitis the discharge is more profuse. Many of these patients have periods of weeks with dry ears, but the odor is usually continuous. Many adults have had otorrhea since childhood and consulted an otologist only because the odor is offensive to themselves and their friends. Because of the offensive odor they withdraw from society and become discouraged and depressed. Even the life insurance agents avoid them. Some accept surgical treatment with disappointing results. Many die young. Labyrinthitis, brain abscess, meningitis and lateral sinus infection are the grave end results.

In a general way it may be said that in chronic suppurative otitis media the prognosis is bad in proportion to the nearness of the perforation to the margin of the drum—a perforation of Shrapnell's membrane being particularly bad.

The hazards of a radical mastoid operation are such that patients should first be given the chance of palliative treatment. The indications are drainage and cleanliness—drainage through the Eustachian tube and free drainage through the tympanum. The auditory canal must be kept clean in order to favor drainage. Medication is important. I first mention glycerine and phenol treatment only to condemn it. It is prescribed by all druggists and most physicians. Used for a brief period it occasionally does no harm. Used over a period of weeks it makes the ear drum thick and leathery and perfect audition is impossible. At its best it is of doubtful virtue; as most commonly used it is vicious.

A better treatment is with alcohol and boric acid, twenty grains to the ounce, filling the auditory canal and holding for several minutes. This is very effective and fairly comfortable.

For several years I have been using hyclorite, 10 per cent to 100 per cent strength. It has the advantage that it will deodorize the most offensive ear and do it almost completely

the first treatment. If the ear is very offensive I dry clean the ear and then have the patient lie down with offensive ear up. Filling the auditory canal with full strength hyclorite solution I let it remain until the patient can taste it, or until the solution begins to burn enough to bring complaint. I then mop out the auditory canal freely with sterile water and leave moist cotton in the ear to be removed by the patient in one hour. I give the patient a 10 to 20 per cent solution for home use thrice daily. By this treatment a social outcast may be placed in high society in thirty minutes. They are most grateful individually and their near associates are even more appreciative. For several weeks I use the full strength solution as an office treatment twice a week. It controls the discharge the best of any treatment that I have used and is the only treatment with which I have been able to effectively and promptly deodorize, and there has not been an untoward after effect in any case. Of course, not all ears are dried up and those continuing to discharge become offensive shortly after treatment is discontinued, in this respect not differing from cases treated by the alcohol and boracic acid method.

In conclusion it may be said that end results in suppurative otitis media depend largely on the promptness and thoroughness of treatment, and the indications for treatment are identical with those for any other suppurative condition—rest, drainage, posture.

THE SYMPTOMS OF NEPHRITIS AND THEIR BEARING ON TREATMENT*

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It is wise to take stock occasionally of our treatment of a disease, to question ourselves as to the reasons for each part; in an unprejudiced manner to judge its efficacy; and to attempt to make plans for its improvement. When the disease has a known etiology, and we are in possession of a more or less specific therapeutic agent which gives us satisfactory results we can feel well satisfied. But when we are dealing with a diseased condition the cause or causes of which are still in doubt and the treatment of which, far from being specific and satisfactory, is but symptomatic and unsuccessful, we should not feel satisfied until we have reviewed the present situation to the best of our ability. This it seems to me is the status of our treatment of nephritis today.

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Certainly we have no specific curative agent for nephritis, and our treatment is largely symptomatic. It is of great importance, therefore, that we should study its symptoms and try to learn their origin if we are to employ them as a basis for treatment. Before going further let me explain that I am using the term "nephritis" to mean an acute or chronic disease, progressing eventually to an alteration in the chemical composition of the blood, to a disturbance of the elimination of waste products from the body and to conspicuous pathological changes in the kidneys. The disease which we call nephritis exists for a longer or shorter time before any disturbance of elimination appears. It is all important that we differentiate in our minds this stage of nephritis from the stage of disturbed elimination. We must still be satisfied to interpret this failure of elimination as renal insufficiency although it may have a much deeper significance.

It may sound elementary to suggest that we should review the symptoms of nephritis; they are given in every text-book and we are each of us familiar with them, and yet I believe that an analysis of these well-known symptoms from this special point of view will yield us something of value in clarifying our ideas of the treatment of nephritis.

Now what are usually accepted as symptoms of nephritis in general without limiting ourselves to any one form of the disease? Certain prominent ones come to mind at once—edema, headache, convulsions, for example, and there are many others. Their variety is well exemplified by the following list which represents the chief symptom or general complaint of each of two hundred consecutive cases of nephritis admitted to the hospital of the University of Pennsylvania. Edema was the chief complaint in thirty-four cases; dyspnoea in twenty-eight, headache in twenty-four, weakness in twenty-two, disturbed vision in fourteen, convulsions in eleven, pain in the back in ten, and vomiting in nine. Albuminuria and thoracic pain were given as the chief complaint by eight patients each; abdominal pain by six, "out of sorts" by three, indigestion by three. Palpitation, drowsiness, epistaxis, cough and vague pains were each the foremost complaint in two cases, and nausea, dizziness, dysuria, aphasia, "mental change," hematuria, insomnia, enuresis, melena, and spasm of jaws each in one case.

This list is quite inclusive and the only important symptoms omitted are diarrhoea, tinnitus and pallor. With these added the list contains practically all the symptoms usually described as occurring in either acute or chronic nephritis.

Thus far I have used the phrase "symptoms of nephritis" but now I wish to discuss the question as to whether strictly speaking these so-called symptoms of nephritis are truly so. Are many of them actually not symptoms of renal insufficiency rather than of nephritis itself? This may seem a quibble, but to me it seems an important distinction. To make my thought clear let me draw an analogy between nephritis and renal insufficiency on the one hand, and endocarditis and cardiac insufficiency on the other.

For years we have been accustomed to differentiate clearly between the symptoms of endocarditis itself and the symptoms and signs of cardiac weakness or decompensation. During the period of the actual endocarditis the symptoms vary with the type of process present, rheumatic, streptococcal or syphilitic. The symptoms may be marked or inconspicuous; the symptoms of the primary infection may dominate the picture and our attention may be drawn to the heart only by tachycardia or pain, or by the discovery on examination of newly developed heart murmurs. At some later period perhaps soon, perhaps not for years, the symptoms of cardiac decompensation, dyspnoea, palpitation, edema, *et cetera* appear. These are not strictly symptoms of the endocarditis but of a weakening of the heart muscle under the handicap of the structurally damaged valves. The important point is that the treatment of the two stages is entirely different and this is universally recognized.

Now when we turn back to a consideration of nephritis and review the list of symptoms and signs which may occur in the various forms of nephritis we come to the somewhat startling conclusion that very few of them are symptoms of nephritis strictly speaking, and that most of them are symptoms of functional insufficiency of the kidneys analogous to the symptoms—dyspnoea, palpitation, edema, *et cetera*, of cardiac insufficiency.

Let us examine a few of these so-called symptoms of nephritis and see whether they should be classed as symptoms of nephritis itself or as results of the impaired action of the kidney.

Edema, which occurs so constantly in acute nephritis and is the parenchymatous or tubular types of chronic nephritis, is most probably the result of the failure of the kidney to adequately perform its function. Dropsy is an evidence of an impaired renal function rather than a symptom of nephritis itself.

For our purposes we may omit discussion as to whether the retention of water is primary, or is secondary to a retention of salt or to some disturbed state of the colloids of the body.

Dyspnoea, which came second in our list of symptoms, may have a variety of causes and in a given case may be due to any one or several of these. It may be due to the action of some toxic substance upon the central nervous system, or to some result of a failing circulation or perhaps to acidosis. These all find their origin in impaired kidney function. A variety of phenomena result from the accumulation of toxic matters in the body with a culmination in uremia and it does not interest us at the moment whether these toxic substances are normal to the body's metabolism and are retained in toxic amounts owing to the failure of the nephritic kidney to eliminate them or whether these toxic substances are only produced in the body secondarily to abnormal processes in the kidney or liver, brought about either by the noxus which primarily caused the kidney disease, or by the results of the disease directly or indirectly.

The circulatory weakness which may explain wholly or in part the dyspnoea which we are discussing, as well as many other of the phenomena observed in late nephritis, usually has its origin in the increased blood-pressure and in the associated changes in the arteries and heart muscle. Kidneys, arteries and heart are so intimately interrelated that it is impossible to think of one without the other two. But dyspnoea of circulatory origin can scarcely be considered strictly a direct symptom of nephritis.

Dyspnoea may be due to acidosis which in nephritis is chiefly due to the failure of the kidney to continue its function of excreting the acid substances, for example, the acid phosphates, normally produced in the body. Here again the cause of the dyspnoea resides in a failure of the kidneys to function properly.

Third in our list of symptoms comes *headache* which occurred as a chief complaint in twenty-four of the two hundred cases. Here again possible toxic and circulatory factors may play a part, or the true explanation may be found in an albuminuric retinitis which in turn has a toxic origin.

As we proceed down the list we next find *weakness*, *disturbed vision* and *convulsions*. The same reasoning applies to these as to the symptoms already discussed.

Pain in the back comes next and presents a somewhat different problem. Sir James Mackenzie¹ in speaking of the symptoms of affections of the kidney, has written "As in the affections of other glandular organs, there are practically no sensory symptoms evoked by disease of the kidney structure. Backache is sometimes put down as present in inflammation of the kidney, but con-

sidering how frequent backache is, some doubt may be entertained whether the kidney is the cause. For a great many years I have carefully inquired into the symptoms in all sorts of cases of albuminuria, acute and chronic, and I could find no evidence of pain of any form referable to the kidney trouble. All the symptoms of kidney disease (apart from alteration in the size of the organ) are found in the chemical examination of the urine, in the frequent micturition, or as the result of its impaired secretion on other organs and systems (vomiting, headache, convulsions, changes in the cardio-vascular system, dropsy)."

Mackenzie in this latter sentence expresses, although in a somewhat different form, the same thought which I am presenting.

Pain in the back when it does occur in nephritis may properly be considered a true symptom of the disease but it should again be emphasized that pain is not of common occurrence and when it does occur it is less severe than is the common belief. Pain is of more frequent occurrence in acute nephritis than in the other forms and is probably due to the swelling of the organ from local hyperemia and edema. It may be stated quite positively that true renal colic never occurs from nephritis alone, nor does marked local tenderness.

The only other true symptoms of the nephritis itself are to be found in disturbances of urination and in alterations of the urine.

The former group are seldom seen—but frequency of urination is occasionally complained of in nephritis without its being dependent upon an increased amount of urine. Such frequency may even occur in acute nephritis with a diminished amount of urine, probably due to an irritating quality of the concentrated and abnormal urine.

Alterations in the urine, the occurrence of albumin, casts, red and white blood cells are in some measure present in all nephritis. These are true evidences of the nephritis but these also may be considered evidences of disturbed renal function. Fixation of the specific gravity of the urine at a low level is a characteristic of chronic nephritis of the glomerular type with hypertension. It is a direct evidence of the altered function of the kidneys in this condition; an altered function which leads to the failure of the kidneys to properly rid the body of a variety of metabolic end products.

This list of the true symptoms of nephritis is brief yet complete; pain, alterations in the urine and disturbances of micturition. All the other symptoms which have been mentioned and many

can be clearly related to secondary results of disturbed kidney function.

Uremia with its variety of symptoms is wholly a toxic phenomenon, and an equally long list of symptoms can be explained on the basis of secondary circulatory disturbances.

If this is true then we may with propriety state that almost all the so-called symptoms of nephritis are secondary results of the renal insufficiency induced by the nephritis and as such are comparable to the symptoms of cardiac failure following perhaps on a primary valve lesion.

As Moschcowitz² has written "in the majority of instances what the clinician means is not nephritis but renal insufficiency."

Now when we turn to an analysis of our treatment of nephritis we find that two things at once appear. First, that the treatment is almost wholly symptomatic and secondly, that the symptoms which are the basis of the treatment are symptoms of renal insufficiency and not of nephritis.

What are the chief measures employed? Nephritis with dropsy is treated by reduction in the water and salt intake, by sweating and catharsis. Are not these but attempts to relieve the impaired renal function? In nephritis with nitrogen retention and a tendency to uremia, one restricts the intake of nitrogen containing protein food and one attempts to increase elimination by the free administration of liquids and by sweating and catharsis. Again we are but lessening the load on a weakened function of the kidney. Different types of nephritis impair different functions of the kidney and our efforts to assist these impaired functions constitute what we are pleased to consider our treatment of this or that type of nephritis. We actually are not treating the nephritic process but are merely lessening the strain on whatever function of the kidney is sufficiently impaired for us to recognize the results of its impairment. This can all be included under the term "functional rest," and is analogous to the limitation of effort which constitutes rest for the weakened heart.

Do not think for a moment that I am decrying the value or need of such treatment, but it is important that we realize what we are accomplishing in such treatment, that it is simply rest—nothing specific, nothing directed at the nephritic process—nothing but the meeting of symptomatic indications. I think we often forget this and feel that by these various measures we are actually treating the nephritis. Of course, there may be terminal cases in which such treatment is all that can be done, but in all others it is all important that we should not ever be satisfied to do nothing but carry out such efforts to give functional relief.

We must always have before us a further goal. Prevention of the onset of the nephritic process in some, and the prevention of its advancement in others.

The prevention of rheumatic endocarditis depends upon the proper treatment of tonsillar infections, of acute rheumatic fever, of growing pains, of chorea. Acute septic endocarditis may prove to be occasionally amenable to mercuriochrome intravenously as introduced by Piper, subacute streptococcic endocarditis may occasionally recover under arsenic administration as reported by Capps. Syphilitic valvulitis can be presented by appropriate antiluetic treatment given in the early stages. We do not wait for the development of edema, cyanosis and dyspnoea to undertake these measures; they are treatments of endocarditis not of the resulting cardiac insufficiency. Rest and digitalis are often employed in these cases but are not thought of as being adequate treatment. And yet in nephritis with renal insufficiency we seem often to be satisfied to administer functional rest to the kidneys. What more should we do?

Firstly, from the point of view of diagnosis we should try to diagnose nephritis, incipient, threatened or early, in the stage before the development of the signs and symptoms of kidney insufficiency. This may be impossible in some instances, but will often be possible if we try. It will be possible only if the symptoms of nephritis, and not those of renal insufficiency, are searched for and properly evaluated, just as the heart murmur is searched for and evaluated. There is a functional murmur and an organic murmur; there is a mild transitory albuminuria and a more persistent albuminuria associated with casts. The former type we may perhaps safely disregard, the latter must be considered of utmost importance.

We know when to search for heart murmurs. When should our knowledge of the etiology of nephritis lead us to examine particularly for evidences of early nephritis, and to give weight to the finding of changes in the urine? At two periods especially; during convalescence from acute infections, and in the early stages of the arteriosclerotic changes which physiologically or pathologically begin to make their appearance in middle age.

Among acute infections scarlet fever has received the emphasis, but apparently much less severe infections are far more insidious and dangerous. Scarlet fever produces as a rule a nephritis of sufficient grade to be promptly associated with kidney insufficiency and so to be recognized. Acute tonsillitis, gastroenteritis, furunculosis, *et cetera*, commence a nephritis which in the early

stages is seldom associated with any symptoms of renal failure and so often escapes notice. And yet the importance of these apparently minor infections as the starting points of nephritis is being more and more appreciated.

No case of acute tonsillitis of more than the mildest degree should fail to have a urine examination before being allowed to resume normal activities. Since being impressed with this fact I have examined the urines of a series of patients with simple tonsillitis and have been amazed at the marked evidences of renal irritation which are present in the urine. In such patients the urine should be examined repeatedly and they should not be considered well until the urine has returned to normal. The same line of reasoning applies to the patient with syphilis, and to the apparently healthy individual who is entering middle life.

Nephritis must be diagnosed before renal insufficiency develops if anything is to be hoped for from treatment. At this early stage one can hope for little help from any of the tests of renal function which we know today. The routine urine examination is probably of greater value. Only by early recognition can we hope to accomplish anything; the process must be halted before the renal damage is too great. If recognized early we may also recognize the cause; a causative acute infection can then be treated with greater respect, the convalescence prolonged; the recurrence avoided if possible. At the same time by control of diet and of fluid intake, by care of bowels, and by restriction of activity, the kidney is given as much functional rest as possible.

In an acute nephritis after the cause has ceased to be active, prolonged rest in bed with some limitation of diet often leads to an apparently complete cure. But one must be sure the cause has ceased to be active. In a case of acute nephritis following otitis media, I have seen the nephritic process continue until a symptomless infection of the mastoid air cells was eradicated. Judgment as to cure will have to depend upon the urine examination.

If the nephritis be of the type which appears to be related to arteriosclerosis and which appears insidiously in middle age then our efforts are directed at the removal of foci of infection, such as those about the teeth, tonsils and sinuses, at the improvement of dietetic habits, at the avoidance of constipation and intestinal indigestion, at readjustment of the activities of life which tend to impair general nutrition and vitality, with injury especially of the arteries and kidneys.

There is nothing new in all of this; it is what we do today but we do it too late and often half-

heartedly. And the reason, as I see it, is that we fail to diagnose nephritis until renal insufficiency and think that we are treating the nephritic process.

Prevention should be our primary ambition. Next in importance comes early diagnosis with appreciation of the cause. By appropriate measures in the early stage we may prevent the recurring insults which ultimately lead to chronic nephritis. By early recognition of the more chronic cases we may be able to avert the failure of renal function with its tragic outcome. Perhaps the future will give us some direct specific treatment of nephritis, this is improbable. Only by earlier and more intensive treatment is there hope of lessening the frequency and fatality of kidney disease.

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COINCIDENCE IN SURGERY*

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According to Webster, coincidence is "the condition or fact of happening at the same time." It often is without relationship of cause and effect, and is more or less synonymous with chance and luck.

There is no limit to coincidence and nothing in the world is more certain. It is one of the prominent phenomena of our daily existence and is the frequent cause of the most bizarre and unexpected occurrences. For instance, in Cuzco, Peru, there is only one automobile and only one street car. I happened to be in Cuzco, for the first time in my life, riding in that street car when it collided with the automobile! And again, I once motored into Casper, Wyoming, where I had never been before. A doctor was explaining to a patient that his neuralgia would be benefited by an injection of alcohol and that I should do it. As he spoke, he looked up, saw me driving by, and exclaimed, "There he is now!"

By thinking people, coincidence is given something of its proper place; but many fail to recognize it as frequently as they should, regarding its manifestations as the result of cause and effect, or even as more or less miraculous. Before the advent of science, the coincidence of some important event, like a battle, with a solar eclipse, was regarded as an intervention of the gods; and in later times, those of superior knowledge often

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have taken advantage of an eclipse to put something over on others who knew nothing of the possibility of its prediction.

Coincidence has much to do with the fame of rain-makers, with the successes of the divining-rod, with the prognostications of prophets, and with the influence of the heavenly bodies upon human affairs. In other words, it is intimately associated with many of our superstitions and fanciful beliefs.

Coincidence always has been and always will be an important factor in medicine and in surgery, which must be given careful consideration in our various theories and deductions. Although we know how deceptive it is we are apt to forget it, unless our attention is called to it occasionally, which is an excuse for the subject of this address.

From a medical standpoint, we should not lose sight of the important part which coincidence plays in the cure of disease by prayer, and in the practice of quacks and medicine-men of all times and places. Upon it, in fact, depends the very existence of Christian Science and the various "cults," "pathies" and "isms" with which a long-suffering humanity is afflicted. Such charlatanism thrives upon the certainty that a percentage of recoveries is sure to coincide with any form of treatment, no matter how foolish, if we use it in a sufficient number of cases of a self-limited disease.

Perhaps what I am discussing may appear sufficiently self-evident to require no emphasis; but occasionally the situation is so involved that we easily are led to false conclusions, of which there is much humiliating evidence in the history of our profession. Let us consider a few of the pitfalls into which coincidence from time to time has led us:

Post-operative pulmonary affections, such as bronchitis and pneumonia, always have been regarded as complications of general anesthesia, upon what seemed to be good circumstantial evidence—a drug was inhaled and trouble appeared in the lungs, hence the trouble was due to the drug. Few opinions are more firmly rooted than this, as indicated by the term "ether-pneumonia," and yet it probably is largely grounded upon coincidence.

We are beginning to understand that these dreaded post-operative affections come from a variety of causes with which the anesthetic has comparatively little to do:—from embolism; from defective ventilation of the lungs (due to paresis of the diaphragm and to restricted respiration from pain and gaseous distention); from retention of secretions, owing to the inability to cough; from hypostatic congestion, the result of pro-

longed decubitus; from traumatism and cooling of the abdominal viscera; from lymphatic infection; and also from the fact that, owing to the independent occurrence of many thousands of operations and many thousands of pulmonary inflammations, it would be strange indeed if they failed to coincide occasionally without the relation of cause and effect, like ingrowing toenail and baldness. Curiously enough, we are not inclined to blame the anesthetic for the occurrence of an influenza, although we do so without hesitation when it comes to ordinary pneumonia or bronchitis.

The law of probabilities asserts that "When two events are independent of each other, the product of their separate probabilities forms the probability of their concurrence." In other words, if the probability of a man being operated upon and the probability of his having an independent pneumonia were each one in ten, the probability of their coincidence would be one in one hundred.

Although it is difficult to deny that a few pneumonias are due to the inhalation of vomitus or pharyngeal secretions, yet even this has been disputed; not only because such inhalations occur during most anesthetics without disaster, but also because injections of infective material into the tracheas of anesthetized animals have been found by certain observers to be harmless.

It will help us to a more correct appreciation of the situation if we remember the comparative rarity of pulmonary complications following operations other than those upon the abdomen. In fact, it is seldom that a pneumonia appears after an amputation, an arthrectomy, a trephining, a plastic operation, etc. And, furthermore, it recently has been shown by long series of cases (for instance, hernias), that affections of the lungs occur almost as frequently after local anesthesia as when general anesthetics have been employed. In addition to the light it throws upon the question under discussion this should make us hesitate to discard, in major operations, the blessings of ether-unconsciousness for the horrors so often attending local anesthesia—to say nothing of the more favorable working-conditions afforded.

Pain in the right iliac fossa too often is regarded by doctors as an indication of appendicitis, forgetting that the concurrence of pain and an appendix may be a coincidence only, even when the appendix shows evidence of disease. This belief is so firm that it is not shaken by the fact that the removal of the suspected organ fails to stop the pain in a large number of instances, or by the knowledge that many other abnormalities may cause distress in this region, such as

mesenteric lymphadenitis, movable caecum, Jackson's membrane, patulous ileo-coecal valve, spastic ileus, diseased adnexa, etc., not to mention hysteria and the disturbances due to gall-bladder, kidney and spinal nerves. Primitive medicine-men, from time immemorial, have cured appendicitis by sucking stones and insects from the abdomen, and producing these objects to prove the correctness of their diagnosis and treatment, much as a surgeon exhibits an appendix.

The recovery of a number of consecutive cases following a certain operation often encourages the idea that the procedure is without danger, or that a special technique is infallible; and yet such a run of fortunate cases may mean no more than, because a reckless motorist has passed a "blind corner" many times without accident, he can continue to do so indefinitely. We easily recognize these "lucky runs" in cards, but we are too apt to overlook their significance in surgery. I once knew an operator who reported a hundred consecutive hysterectomies for fibroids without a death, from which he drew the conclusion that he had the surgical world by the tail. The next four patients died.

How many cases, then, does it take to prove anything? There is no definite answer to this. All that can be said is that the greater the number the better the proof, and that we must ever be on guard against coincidence—against the temptation to assume that because a certain number of individuals got well, it was the treatment that cured them. The highway of medicine is strewn with therapeutic wrecks of this description, especially in connection with erysipelas and the acute infectious and pulmonary diseases. We not only deceive ourselves by such faulty reasoning, but it also leads to a loss of confidence by the laity, when they ultimately find out that our pretensions were without foundation. By such means is the door opened to the charlatan, who, when the regular profession gums the cards, always is ready to proffer a new deck, which the average citizen does not know is marked.

The coincidence of a surgical intervention with a high or a low resistance on the part of the patient, has so much to do with the result that it deserves more attention than it has received. The older surgeons had this in mind when they refused to do a serious operation in the face of a falling barometer, a refinement which we have lost sight of, but which undoubtedly is sometimes of enough importance to turn the scales in doubtful cases.

Although we quite thoroughly understand that we should hesitate to operate during severe shock, or when resistance is lowered from disease of

vital organs, such as the kidneys, there are many conditions in which the danger is not sufficiently appreciated. We need, for instance, a more thorough understanding of the increased risk attending operations upon patients who have, or who have recently had, an acute affection of the air passages, no matter how slight the "cold" may appear to be. Many post-operative pneumonias undoubtedly have their origin in this form of coincidence.

We have been taught by bitter experience that toxic goitres can only be handled with safety in the intervals between the periods of toxicity; but it is not so clearly understood that the rule also applies to certain other conditions, such as the intermittent jaundice and sepsis associated with a stone in the common bile-duct. The temptation is great to operate during a spell of jaundice, when the patient is really sick; but it is much safer to intervene in an interval, thus taking advantage of the coincidence of a period of greater resistance.

In this connection should be mentioned the pre-operative use of vaccines for the purpose of increasing post-operative resistance to the commoner forms of infectious bacteria. For insufficient reasons this safeguard has been neglected, in spite of the fact that satisfactory results have been obtained from its use. We seem to be content with waiting for the coincidence to occur naturally, instead of pushing the matter ourselves.

That immunity from infection is of the utmost importance in surgery, as well as in medicine, is self-evident. In fact the trend of opinion, as voiced by Sir Almroth Wright, is toward the idea that the resistance of the tissues probably is worth more than all our antiseptics, which do more harm than good by attacking the living cells before they do the bacteria. This suggests the futility of our multitudinous antiseptic irrigations, with all their attendant inconveniences and discomforts, Wright even questioning the value of the Carrel-Daken treatment itself.

The great utility of coincident immunity, even in plastic surgery, recently has been demonstrated by Katzenstein. When skin-grafts or flaps are rendered immune by pre-operative infection with the proper bacteria, they may be transplanted to infected surfaces, in spite of the most unfavorable conditions, with every prospect of primary union. In this way can be cured old ulcers of the leg and of amputation-stumps, even though connected with the bone, while without this preliminary preparation failure is the usual outcome.

Statistics, it has been said, can be made to prove anything; or, to put it in another way, "There are lies, damned lies, and statistics."

While this is obviously exaggerated, nevertheless statistics are tricky things and must be handled with care, if we would avoid being misled by coincidence in some of its varied forms.

Holmes says that "Nothing is more common than to find statistics regarding the appearance of alcoholism in successive generations adduced as sufficient proof of the hereditary effects of alcoholism. One might get the same kind of statistics about taking snuff, chewing tobacco, or using bad grammar."

Before the days of prohibition it was easy to trace a relationship between alcohol and crime, because of their coincidence; but it is not so easy now, when we see crime more prevalent in our dry country than it is in some wet ones.

Hence, for statistics to be of value we must know much about them, and about the men who made them, or they may lead us, from coincidence, into deductions just as absurd as the one arrived at by Mark Twain—that a bed must be a very dangerous place, because so many people die there. We must know, among other things, whether the surgeon who compiled the statistics is especially skilled in operating and in diagnosis, and whether he has a "scientific conscience" or an elastic one. We must know just what is meant by "cured" and by "improved," by "many" and by "few." We must know the conditions under which the operations were done, the nationality and age of the patients, the season of the year, the presence or absence of epidemics, the manner in which the operative cases were chosen, the number quoted, and whether they were consecutive or not; and we must also make allowance for "runs" of favorable cases, which may be astonishingly misleading.

As an illustration of how careful we must be, I once heard a prominent surgeon read some unusually favorable personal statistics relating to the operative cure of cancer of the breast. A skeptical member of the society questioned him so closely that he finally admitted that, after an operation was begun, if he found the case apparently hopeless, he did not include it in his statistics!

In a similar way men often yield to the temptation to exclude cases that die from causes which in their opinion are not related to the operation. This is so prevalent a source of error that some clinics have decided to include all deaths that occur in the hospital, regardless of the cause.

It is always possible to surround an operation with a lot of favorable statistics due to the coincident skill and training of the surgeon. For instance, the plating of fractures, when done by Mr. Lane himself; or the division of the sensory

root of the Gasserian ganglion, by Dr. Adson; or resection of the carcinomatous stomach by William Mayo; or operations for hyperthyroidism by Dr. Crile. Unfortunately the average surgeon often fails to see the "joker" in such statistics and makes the mistake of thinking he can do likewise.

A surgeon with an unscientific or an elastic conscience is led easily, almost unwittingly, into false observations and conclusions. He sees a gastric ulcer where there is nothing but a "white spot" or a thickening of the pylorus; an intermittent hydronephrosis whenever the x-ray reveals a kink in a ureter; and a toxic goitre in every nervous woman with a rapid pulse. His "cures" often would be classed as mere improvements by those who are more exact in their statements; and when he speaks of "many" he often means few. We are all familiar with the phrase, "I have tried this in many instances with gratifying results," but we do not know whether this signifies two or three, or fifty.

Allowance likewise must be made for the conditions surrounding a series of operations—whether they are done in well-equipped hospitals or in rural communities; whether in civil or in military practice. And we also should know something about the racial characteristics of those operated upon, which vary immensely. The nervous reaction of Jewish people, for instance, is often decidedly greater than that of others—for example, the natives of Central America, who exhibit but few of the disquieting post-operative symptoms with which we are so familiar. Also, medical missionaries from China and other out-of-the-way places frequently tell us of the rapid and easy convalescence of their patients.

When one bears all these coincidences in mind, should it not lead to care in estimating the scientific value of the vast quantity of statistics being accumulated so laboriously in hospitals all over the country? These often are private hospitals, organized for the care of patients only, and not for research; whose heterogeneous staffs are more or less untrained in scientific procedures, and have nothing in common except that their patients are under the same roof.

In order to avoid deception, it must be quite clear as to just what a given set of statistics is capable of proving. For instance, when it is stated that the average height of a body of men is five feet and eight inches, it may mean that many of them are of this height, or it may mean that by coincidence the statistician has measured a lot of giants and a lot of dwarfs, and that very few of the individuals represent the average. And similarly, when we say that 10 per cent of the

people in the world who are over middle age, die of cancer, it is not meant that ten out of every hundred in any given community will succumb to that disease. Some districts will be hard hit while others remain free. Or again, it does not follow that because the operative mortality of general peritonitis is 90 per cent, that ninety out of every hundred cases operated upon will surely die. To any surgeon might occur the coincidence of having fifty favorable cases, even in succession. Hence it is obvious that we are not justified in telling a patient, as is so frequently done, that statistics show that his chances from a given operation are just so much. The question is too complicated, for such a statement. We should use our judgment in each individual instance, and not allow ourselves to be influenced by statistics, unless we are certain they are free from misleading coincidence.

The principal conclusions to be drawn from all I have had to say are that everything in surgery requires the most rigid scientific scrutiny before it can be accepted, and that we always must be on guard against that arch conspirator—coincidence.

SURGERY OF THE PROSTATE*

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Most men past fifty years of age have enlargement of the prostate, but in many cases there are no symptoms, and in not more than 50 per cent of those in which symptoms are present are there true indications for surgical procedures.

Malignancy of the prostate comprises 15 per cent of the glandular lesions which require surgical treatment, adenocarcinoma being the most common type. Other forms of malignancy of the gland are exceedingly rare. Benign hypertrophy consists, pathologically, of two distinct types, adenomatous hypertrophy, and the inflammatory type of gland or so-called prostatitis. It is important that this differentiation be made clinically. Ninety per cent of surgical benign enlargements of the prostate are due to adenomatous hypertrophy, the remaining 10 per cent, or so-called prostatitis, to inflammatory changes. These types vary considerably as regards the symptoms they produce and the results that may be expected from treatment.

Prostatitis is apparently only a part of an inflammatory process involving the entire prostate and associated sexual structures, while true

adenomatous hypertrophy is a distinct pathologic change occurring within the gland, producing symptoms by mechanical obstruction in most instances. If in the latter there is associated inflammatory reaction in the bladder or elsewhere in the genitourinary tract, it is usually secondary and generally disappears completely after prostatectomy. Usually adenomatous hypertrophy produces marked frequency and difficulty of urination, accompanied by residual urine, varying in amount from a few ounces to the entire capacity of the bladder. Very marked frequency and irritability of the bladder are associated with the inflammatory type of gland, and although mechanical obstruction and residual urine may result, it is not the rule. In the absence of residual urine little benefit is obtained from prostatectomy in cases of this type.

Carcinoma of the prostate is usually so far advanced by the time the symptoms are sufficient to cause the patient to seek consultation, that surgery offers little more than palliation. The symptoms are usually insidious, and are manifest only after the disease has advanced locally to the prostatic tissues, and remotely by metastasis to the bones. Bumpus found that metastasis to the bones occurred in 30.3 per cent of patients with carcinoma of the prostate. At the time of clinical examination, the bones most commonly involved were those of the pelvis, the spine, and the femur. Metastasis to the lungs occurred rarely and late; metastasis to regional glands occurred in 10 per cent of the patients. Metastasis, then, excludes from surgical intervention 40 per cent of cancers of the prostate. Furthermore, the results of radical prostatectomy for carcinoma determined clinically have not justified its use. The best results have been obtained when prostatectomy was performed on a clinically benign gland in which early unsuspected carcinoma was found at operation. Bumpus says that of 146 patients who had been subjected to prostatectomy for carcinoma of the prostate, 80 per cent died within two years after operation. Palliative suprapubic cystostomy is often indicated by mechanical obstruction and residual urine.

Benign hypertrophy of the prostate is the lesion of surgical importance. The indications for prostatectomy in cases of benign hypertrophy are based on the secondary or associated pathologic conditions. With enlargement of the gland, expansion occurs mesially or laterally, encroaching on the lumen of the prostatic urethra, or intravesically through the internal sphincter. Intra-urethral or intravesical enlargement of the gland is usually obstructive, resulting in retention or incomplete emptying of the bladder, though not

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necessarily, for at times huge, non-obstructing glands are encountered. However, in 91 per cent of our patients there was residual urine, varying in amounts from an ounce to the entire capacity of the bladder. With obstruction at the neck of the bladder, the vesical walls hypertrophy, and trabeculations, celluloses, diverticula, and stones develop. With the advent of infection, cystitis, pyelonephritis, and renal insufficiency supervene, the amount and degree depending on the amount and duration of residual urine. Vesical calculi were associated in 12 per cent of our cases of prostatic hypertrophy, and surgical diverticula in 5 per cent.

In the past, the high mortality rate from prostatectomy led to palliative relief by urethral catheter in cases in which obstruction and residual urine developed. However, since the average life under catheterization is only about five years, and since mortality following surgical treatment has been markedly reduced, use of the catheter method of treating prostatic obstruction should be discouraged. The safeguards surrounding the surgical management of the obstructing prostate today insure small risk, excellent functional results, and eliminate the causes of death attending a catheter life. The functional results are dependent on the duration of obstruction and the condition of the upper urinary tract. It is not unreasonable to expect that, if the obstruction is removed before the kidneys are much damaged, the results of prostatectomy will be better than those attending the operation after a long period of retention and pyelonephritis, when irreparable damage to the upper urinary tract has occurred.

SYMPTOMS

The subjective symptoms of prostatic lesions are frequency, difficulty, pain, hematuria, and incomplete emptying of the bladder. The first three symptoms do not necessarily indicate surgery. They usually exist, but if they, alone, form the basis of indication for operation, a guarded prognosis as to the ultimate result should be made, for these symptoms alone, in the absence of obstruction or residual urine, are usually manifestations of infection, frequently occur in so-called prostatitis or in the inflammatory type of gland, and are usually not relieved by prostatectomy. Hematuria, if the higher urinary tract is not its source, may usually be traced to an intravesical gland with varices in the overlying mucous membrane. Inability to empty the bladder completely, and persisting residual urine, are direct indications for prostatectomy, if the possibility of cord bladder has been excluded. However, the absence of residual urine is not a con-

traindication to operation if the gland is large, and other subjective symptoms are present.

TREATMENT PRELIMINARY TO PROSTATECTOMY

No phase of the management of prostatic hypertrophy is more important than the treatment preliminary to operation. Many patients have had chronic retention for a long time, with resultant marked renal insufficiency, and are in a state of chronic uremia. Surgical removal of the obstruction without preliminary preparation has precipitated acute uremia, with a resultant high mortality rate. Recognizing that all patients with prostatic obstruction and residual urine are uremic or potentially so, and treating them for this condition before operation have been important factors in reducing the mortality rate to between 3 and 4 per cent. By draining the bladder with a urethral catheter or with a suprapubic tube for a period, varying with the amount of renal insufficiency and the general condition of the patient, prostatectomy will be attended with but little risk.

The renal functional tests and the general condition of the patient determine the time when operation may be performed safely. Under unusual circumstances, only, may prostatectomy be performed with safety, when there has been a return of less than 20 per cent of the dye in two hours by the phenolsulphonephthalein test, or if more than 50 mg. of urea for each 100 c.c. of blood is retained.

SURGICAL PROCEDURE

Prostatectomy was developed in the early years of surgery of the bladder, through perineal or suprapubic drainage for urinary retention and the removal of vesical calculi. In the natural evolution, the perineal and suprapubic operations were developed. The perineal is anatomically the method of choice and has been advocated for years by various surgeons. However, because of the disadvantages of the high incidence of post-operative incontinence and recto-urethral fistulas, and because, in cases of benign hypertrophy, the suprapubic method permits direct attack on the part of the gland involved, that is, the lateral and median lobes, the latter method has become quite universal. The suprapubic method, furthermore, possesses an advantage in its accessibility to the associated lesions of the bladder.

The choice between a one or two-stage suprapubic operation is largely personal. As yet it is not possible to employ the one-stage operation routinely, nor is it necessary to utilize the two-stage operation in all cases. The uniformly high mortality rate in the early years of prostatic surgery, as a result of performing prostatectomy in

the presence of chronic retention and renal insufficiency, led to the two-stage operation of suprapubic cystostomy preliminary to prostatectomy, with marked reduction in the mortality rate. However, a preliminary cystostomy in the presence of prolonged chronic retention and renal insufficiency is not without danger, and is accompanied by a definite mortality rate. Death from uremia following suprapubic cystostomy is just as much a failure in the successful management of prostatic obstruction, as death from the prostatectomy itself, and should be included in the mortality rate of this operation, for the result is the same so far as the patient is concerned. Patients surviving the preliminary operation and recovering from the uremia will pass through the second stage, or removal of the prostate, with an exceedingly low mortality rate. The diminished mortality rate of the two-stage operation has commended its use and led to its general adoption. However, it possesses the disadvantage of inaccuracy in the conduct of the second stage. A recent cystostomy forbids the wide exposure of a one-stage operation and necessitates blind enucleation of the gland, which at times results in failure to remove all of the obstructing gland, or to control the bleeding accurately. The one-stage operation is, therefore, preferable to the two-stage operation when it can be done safely. Recognizing that the preliminary suprapubic drainage causes improvement in the renal, and general condition of the patient, the disadvantages of the two-stage operation are overcome by instituting preliminary drainage of the bladder by means of a permanent urethral catheter instead of suprapubic cystostomy, which converts the procedure into a one-stage operation. The method of gradual decompression of the bladder in the presence of acute or chronic retention and uremia, as described by von Zwalenburg, and Bumpus and Foulds, has largely obviated the necessity of suprapubic drainage, and has prevented precipitate acute uremia and death.

In most instances with associated vesical calculi and large diverticula of the bladder there is renal insufficiency to a degree that renders the two-stage operation advisable, removing the prostate subsequent to, rather than simultaneously with the removal of stones and excision of diverticula. Less than 10 per cent of patients are intolerant to permanent drainage of the bladder by urethral catheter. Permanent urethral drainage by catheter facilitates the single operation which has been employed in 76 per cent of the patients operated on at the Mayo Clinic, and permits the application of the general principles of surgery to the operation of prostatectomy.

In the past, the operation has been carried on in the dark by means of the sense of touch. The one-stage operation facilitates exposure and visualization of the entire procedure, ensuring complete removal of the obstructing gland and irregular tags at the neck of the bladder, and permitting accurate control of all bleeding.

The evolution of prostatic surgery has carried it well beyond the question of how quickly prostatectomy may be performed, but demands accurate application of the general principles of surgery to ensure a low mortality rate and the best functional results. It is no longer to be expected that a patient's urine will contain blood for days after prostatectomy. In surgery of the prostate, the application of the principles of hemostasis as applied elsewhere in the body, is equally effective. The mortality rate in prostatic surgery is in direct proportion to the loss of blood.

Local anesthetics have largely supplanted general anesthetics in prostatic surgery, with marked influence on the immediate and endresults, and post-operative pulmonary complications. In the past, with the use of ether it was essential that the operation be performed with dispatch in order to minimize depression of the kidneys by the drug. However, this sacrificed accuracy for speed. Spinal anesthesia has been successfully used in a large series of cases, but it possesses the disadvantage of a marked drop in blood-pressure and frequent disquieting symptoms which are entirely obviated by transsacral and abdominal infiltration, as described by Labat and Meeker. As complete anesthesia and relaxation are obtained as with spinal anesthesia, without the disquieting symptoms of the latter. Post-operative pulmonary complications following prostatectomy under local anesthesia rarely occur, and are practically always by embolism rather than caused by inhalation.

During the ten years from January, 1913 to January, 1923, 1360 suprapubic prostatectomies were performed at the Mayo Clinic. Of these, 76 per cent were performed as a one-stage operation, and 24 per cent were preceded by a supra-pubic drainage or excision of diverticula.

In an effort to determine what the ultimate results of prostatectomy have been, information was obtained by reexamination of many patients and by questionnaires sent to all. The effect of prostatectomy on the symptom of frequency was a return to normal night urination in 76 per cent of the patients, the vast majority of whom retain the urine throughout the night, and 74 per cent void less than six times during the day. The symptom of preoperative difficulty of urination

was relieved by prostatectomy in 95 per cent of the patients.

There is a physiologic waning of sexual power in the prostatic age, but there is no reason to believe that the prostatic enlargement is a causative factor. But 66.8 per cent of our patients had normal power at the time of prostatectomy; the remainder had diminished or poor power. Even though the prostate is a sex gland, it does not follow that prostatectomy has an important influence on power. However, 10.8 per cent of the patients had return from poor power before operation to normal power after operation. Seventy-one per cent suffered no impairment or change in power, and if those in whom power was increased are included, approximately 80 per cent retained sexual power after prostatectomy.

As regards the functional results of prostatectomy, 54.12 per cent of the patients are entirely relieved of all symptoms, and are well; 25.28 per cent are markedly improved; 13.27 per cent are slightly improved; 4.49 per cent report no change, and 2.82 per cent state that they are worse. In other words, 92.67 per cent were improved by the operation. Those but slightly improved, those who experienced no change, and those who are worse had had obstruction with retention and infection for a long time before operation. Irreparable damage to the kidney had occurred, and re-examination since operation has shown a persistent and progressive pyelonephritis.

The ultimate results of prostatectomy bear a direct relation to the length of time that retention and infection of the urinary tract have been present, and it is reasonable that the best functional results are obtained in cases in which prostatectomy is performed before pyelonephritis develops.

Uremia, hemorrhage, pneumonia and general sepsis have been responsible for the high mortality rate in the past. The careful preoperative preparation and treatment of the actual or potential uremia, the use of local anesthetics, and accurately visualized conduct of the operation have decreased the mortality rate to a minimum, and ensured excellent functional results.

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UTERINE PROLAPSE AND ITS TREATMENT*

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The etiology and symptoms of uterine prolapse, as recognized now, are essentially the same as recorded by some of the earliest writers. In recent years the anatomy has been carefully studied, and many of the operations advised aim to reconstruct the normal pelvic diaphragms.

It is necessary to realize that the uterus and, to a lesser extent, the bladder and the rectal wall are incorporated in the upper pelvic diaphragm or pubosacral fascia, and it must be considered a part of it. In all cases of prolapse and cystocele there is a downward displacement, or rupture, of this fascia, or of part of it. The recognition and treatment of the condition as hernia greatly influences the prognosis.

The prospect for curing any hernia by operation is in direct proportion to the strength of the tissues that can be utilized in closing the defect, and the ease with which they can be approximated. Apposition without tension is to be preferred to overlapping with tension, which might interfere with circulation. If undue tension is necessary to approximate anatomic structure, it is much better to utilize other structures. Each case has to be judged on its own merits. Any routine operation for pubosacral hernias should be considered radical in some cases, and as insufficient in others.

In the treatment of the ordinary types of hernia, a technic that is satisfactory in the difficult case is also often advisable in the simple case. This is not true, however, in pubosacral hernia, as in the more difficult cases it is often necessary to interfere with the function of the uterus, and in other cases to remove it. Furthermore, the age of the patient should influence the choice of operative procedure.

In most text-books, uterine prolapse is spoken of as existing in the first degree when the cervix descends far enough to allow the fundus to turn back into the hollow of the sacrum, and the axis of the uterus to be more or less continuous with the axis of the vagina; in the second degree when the cervix descends to the vulva, and in the third degree when the uterus descends partially, or wholly, through the vulva. I consider as third degree only those cases in which the cervix protrudes from the vulva, and as fourth degree, those in which there is total protrusion of the organ. With this classification the indications for treat-

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ment are simplified, as treatment which is satisfactory for cases in which the cervix alone protrudes is not sufficient for cases of total prolapse.

I shall not discuss here any of the so-called medical, or non-operative, forms of treatment, although they are of great value in selected cases. Many of the second and third degree prolapses seen during the childbearing period would be avoided if the patients received adequate instructions with regard to personal hygiene and exercise following childbirth, and the advice of a competent gynecologist after a thorough bimanual pelvic examination several weeks after confinements. In many instances the temporary use of a well-fitting pessary or minor operations will correct the vicious tendency to procidentia, the satisfactory cure of which is one of the greatest surgical problems.

OPERATIVE TREATMENT

Cases for operative treatment may be divided into three main groups: (1) those in which it is expedient to preserve the function of the pelvic organs; (2) those in which it is important to preserve the pelvic organs, but in which there are no contraindications to producing a sterile state; and (3) those in which the patients are near, or past, the menopause, and there is no contra-indication to removal of the uterus.

In treating patients during the childbearing period, an attempt should be made to restore as nearly as possible the normal relations. Repair of lacerations is, therefore, preferable to amputation, and shortening of ligaments to making fixations, or radical changes in the anatomic relations. It is important to treat these patients as early as possible, not only to relieve the pain and discomfort, but to prevent the necessity of a more radical operation later.

If a young woman has a prolapse of the first or second degree, and there is no indication for opening the abdomen, an external shortening of the round ligaments of the Alexander type, repair of the pelvic floor, and in certain cases vaginal fixation or plastic operation on the anterior vaginal wall, is very satisfactory. However, opening the abdomen adds only slight, if any, risk to the operation. In most cases an operation can to the operation. Furthermore other abdominal organs may be examined, and it is not at all uncommon to find some pathologic condition that was not suspected before operation. In these cases I prefer a modification of the Gilliam internal shortening.

In cases of older women, especially if there is also a large cystocele, a plastic operation on the

uterine ligaments and repair of the pelvic floor will not be sufficient. In most of these long standing cases, it is not the low-lying uterus that causes discomfort, but the associated cystocele or rectocele, and treatment should be instituted to relieve these conditions. If the cystocele is large and the body of the uterus still remains in the pelvis, the most satisfactory operation is an interposition operation of the Watkins-Wertheim type. In many instances the cervix is elongated and high amputation is advisable. If the patient has not passed the menopause, the fallopian tubes should be ligated. As the degree of prolapse increases, the prospect for cure by the regular Watkins technic decreases.

I believe that the failures following this operation are in the main due to an unwise selection of cases. The amount of the uterus removed should increase as the amount of prolapse increases, and the remaining part be used simply as a living pessary stitched in the opening of the uteropubic fascia, through which the hernia of the bladder occurs. The operation is for cystocele, and not so much for prolapse of the uterus as a whole, but in the majority of cases of cystocele, we have an elongation of the cervix which is frequently mistaken for prolapse.

In cases in which the uterine prolapse is the chief cause of complaint, and the cystocele is not marked, fixation of the uterus and perineorrhaphy give very satisfactory results. Here again the judgment of the surgeon are of importance in selecting the type of operation. If there is only a moderate amount of prolapse, vaginal fixation of the Mackenrodt-Duhrssen-Winter type, or fixation of the fundus to the anterior abdominal wall, by any of the well-known methods (that of Vineberg probably being the most satisfactory), is advisable; but if the relaxation is marked and the uterus can be delivered through the abdominal incision, the Kocher or Murphy method, or a partial hysterectomy and fixation of the stump, is advisable. In extreme cases, total hysterectomy should be performed, and the vault of the vagina fixed to the abdominal wall.

In prolapse of the third degree, in which the cervix to the level of the internal os protrudes from the vulva, and the body of the uterus is in the lower pelvic strait, I believe the most satisfactory operation is that advised by C. H. Mayo, which consists of vaginal hysterectomy with lateral apposition of the broad ligaments, with round and uterosacral ligaments included, and stitching of these ligaments into the opening in the uteropubic fascia in exactly the same manner as the uterus is used in the Watkins-Wertheim operation. Failures following this operation are the

result of attempting it in unsuitable cases, or to failure to fix the ligaments between the bladder and the anterior vaginal wall.

In prolapse of the fourth degree, or complete procidentia, the uterine ligaments give little or no support, unless the approximation is made high, and in doing this, there is considerable danger of injury to the ureters. However, most of the recurrences of cystocele following the Mayo operation are due to failure to appreciate the necessity of firmly fixing the uterine ligaments into the defect in the uteropubic fascia; that is, fixing the approximated ligaments firmly under the bladder, leaving just sufficient space for the urethra to protrude under the pubic arch, and also anchoring them into the entire length of the anterior vaginal wall. In cases of procidentia in elderly women, and in cases of extensive recurrence following any of the recognized types of operations, but especially after the Watkins-Wertheim or Mayo operation, the LaFort type of partial obliteration of the vagina is justifiable, provided the patient understands exactly what it means. If the uterus has been removed, complete obliteration of the vagina by denudation and circular suture is advisable in certain cases.

In all cases of uterine prolapse, if the pelvic floor is lacerated or relaxed, perineorrhaphy or repair of the pelvic floor or lower diaphragm is indicated, no matter what type of operation has been done to strengthen or support the upper pelvic diaphragm. Many operations have been devised, and nearly every surgeon has his own modifications. The one important consideration is to make a high approximation of the levator ani muscles. To accomplish this, the muscles should be thoroughly freed before suturing them in front of the rectum. In case of extensive laceration, the vagina and rectum are parallel; following repair, the axis of the vagina should be almost at right angles to the axis of the rectum, and a solid pyramidal-shaped perineal body should intervene.

CONCLUSIONS

1. A tendency to procidentia can be overcome in most instances by satisfactory repair of laceration at childbirth, and early institution of non-operative measures.
2. It is important to realize that the condition under treatment is a hernia, and that the larger the hernial opening, the more difficult the closure.
3. The type of operation should be carefully selected in each case, keeping in mind the extent of the prolapse, the size of the associated cystocele, the age of the patient, her marital state, and

the relative danger of an abdominal or perineal operation.

4. Perineorrhaphy is essential in all cases.
5. In difficult and recurrent cases, it is sometimes advisable to obliterate the vagina.

OPERATION AND AFTER CARE OF INFECTED BONE AREAS

Method Devised by

H. WINNET ORR, M.D., F.A.C.S., Lincoln, Neb.

The points to be observed in the treatment of these conditions are, (a) drainage; (b) removal of dead tissue; (c) protection of the infected area against reinfection or mixed infection; (d) to place the patient in such a position and under such conditions as will enable him to make the most efficient natural resistance to his infection; (e) to have the patient recover with all the affected parts and other parts in the vicinity in such relation to each other as will make for avoidance of deformity, a minimum of disability, and therefore the best possible function.

Many of the above points have been rather regularly disregarded. It is the writer's opinion that they must all be carefully considered in every case. For example, in a recent case a woman of forty was seen with an osteomyelitis of the wrist. She was found in bed after two months of previous treatment with an extremely swollen hand, wrist and arm, and in great pain. The hand and fingers were straight and swollen, and rested on a pillow without other support. The wrist was slightly flexed, and the hand pronated. There were two small punctures on the back of the wrist. The osteomyelitis cavity had not been drained. In this case the greater part of the carpus was resected. The hand was dorsiflexed on the wrist, a plaster splint was put on to the shoulder with the hand supinated and the elbow at a right angle. This patient has made a good recovery in about eight weeks and has resumed a manual occupation.

TECHNIQUE OF THE TREATMENT

1. Make a fairly large incision over the infected bone area. Spread apart the skin, muscle, fasciæ and periosteum just far enough to afford access to the diseased bone area and no further.
2. Now chisel a window in the affected bone area large enough so that all diseased bone may be removed and so that there are no overhanging edges of bone over the diseased area.
3. Clean out the diseased area gently with a curette or gauge, being careful to damage tissues undergoing repair as little as possible.

4 Dry the wound and wipe out with 10 per cent iodine followed by 95 per cent alcohol.

5. Pack the entire wound wide open but not tightly with a sterile vaseline gauze pack. Cover this with a dry sterile pad and bandage.

6. Now perform any reasonable forcible manipulation necessary to place the parts in correct anatomical position for splinting (abduct the arm to 90° in humerus cases; dorsiflex the foot to a right angle with the leg in leg and foot cases, etc.)

7. Apply a plaster cast (preferably) or a suitable splint so that the parts are thoroughly immobilized in comfortable and correct position (additional weight and pulley traction, balkan frame, or even ice tongs or bone pins must be used especially in those infected bone lesions associated with fractures and old fracture deformities which are being corrected at the same time as the clean-up operation). I may say that it is in these later cases that some of the most gratifying results may be obtained by this method.

8. Finally the cast is not to be split nor are windows to be cut in the cast until wound dressing becomes necessary. And the wound is not to be dressed at all except for rise of temperature or other signs of acute sepsis. As a rule no dressing is necessary except on account of odor and this may not be required for several weeks. In a majority of cases the patient treated by this method will go through to complete healing with a few dressings at intervals of from ten days to four weeks.

The plaster cast has often been objected to on the ground that it cannot be kept clean for wet dressings, and that when soiled by drainage, etc., it becomes an unsanitary and an unsurgical splint. In the employment of this method the first objection is met by the fact that no wet dressings are used. On the second point, however, I may say that if the treatment is carried out as suggested there is usually no drainage at all, or very little. In the majority of patients so treated we have had, even after several weeks, so little drainage that the dressings next to the wound are not even saturated through. There are of course exceptions to this. We have had one or two instances where considerable quantities of pus escaped into the dressings and into the cast. Even when this occurs, however, we have found that the wound continued to heal and that the drainage, except in one instance, had no irritating effect on the surrounding skin. If the drainage is profuse, and if a change of dressing becomes necessary, it is after all no more difficult than the reapplication of a cast under any other circumstances; and when one is properly organized

to do it requires only a matter of twenty or thirty minutes.

One of the points to be emphasized in regard to this treatment is that it calls for the close personal attention of the responsible surgeon himself. The original operation and the secondary dressings by this method can and should be done either by or under the eye of the surgeon in whose hands the patient has placed himself. From the standpoint of the busy surgeon this has objections, but from the standpoint of the patient who has had all too little consideration, this will be a move in the direction of better care and better results.

X-RAY DIAGNOSIS OF BONE LESIONS*

ROBERT W. LOVETT, M.D., Boston, Massachusetts

The modern surgeon is constantly faced with the question of the diagnosis of obscure bone lesions, and in formulating the diagnosis and treatment of bone lesions he will resort much more often to the x-ray than to direct cutting down. For this reason the x-ray pathology and diagnosis of bone lesions becomes of great practical importance.

Seen from the point of view of the x-ray, bone is a highly specialized structure, possessing a limited reaction to trauma, toxins, and infections. There are certain things that it can do, and certain things that it cannot do; and it will simplify very much the study of x-ray pathology if we define these changes and their relation to clinical phenomena. They may be formulated as follows:

1. *Atrophic changes*, where the bone shadow diminishes, the contrast between the cortex and the medulla becomes extremely sharp, and in the severer cases the medulla casts little more shadow than the soft parts. This accompanies injury, disuse, and is seen in disease—particularly tuberculosis.

2. *Destructive changes*, which are either general or local. The appearances of these are exactly what is indicated by the name—a destruction or disappearance of bone tissue. This may involve a large area, perhaps the end of the bone, or it may appear in small, approximately circular patches, or as notched-out areas. Of the destructive affections, tuberculosis is the most purely destructive, although destruction occurs also in osteomyelitis, and often in syphilis, and at times a wearing away which amounts to destruction in arthritis deformans.

*Read before the annual assembly of the Tri-State District Medical Association held at Peoria, Illinois, October 30 and 31, and November 1 and 2, 1922.

3. *Formative changes*—In this class a new formation of bone occurs, leading to an increase in outline or in density. Arthritis is the most purely formative of common bone affections; syphilis is more formative than destructive; osteomyelitis is both formative and destructive; and new growths are also formative and destructive.

Although with a diseased process, there is a tendency toward manifesting one or the other of these types predominantly, two facts must be remembered: first, that a lesion may possess the characteristics of two groups; and second, that any one of the lesions may show changes of a group which is not characteristic. For example: tuberculosis, although generally purely destructive, may be in rare instances almost purely formative, and formative changes may be excited in practically any of the common lesions; as, formative changes characteristic of osteomyelitis, with increase in density and circumference of the bone, may be caused by syphilis, tuberculosis, or osteomyelitis. Consequently, if we use the term osteomyelitis as characteristic of pyogenic infection we are likely to be led astray, and this is a most important matter in the diagnosis.

In the study of the x-ray appearances of tuberculosis, osteomyelitis, and syphilis, we are likely in the majority of cases to find the character of the lesion apparent from the x-ray; but in a minority of cases the diagnosis cannot be made from the x-ray alone. The latter group of cases consists of two divisions.

1. Cases which are absolutely anomalous in appearance, as in formative tuberculosis; and syphilis when it is mainly destructive and but slightly formative.

2. In certain focal lesions resembling what has been described as Brodie's abscess, where the diagnosis in many cases without a microscopical examination is absolutely impossible. A small focal lesion characterized by a circular loss of tissue, occurring near the epiphysis, may or may not extend through it. It may or may not be surrounded by an area of increased density. It may be perfectly clear as if punched out by a trephine, or its interior may be hazy as if containing some bone elements.

Microscopical examination of a series of these cases, reaching over a period of several years, made by Professor S. B. Wolbach of the Harvard Medical School and by the writer, has shown that these cases may be either osteomyelitis or tuberculosis, and that in a fair proportion of cases clinical diagnosis is impossible or unreliable before operation.

The presence or absence of a Pirquet skin test, the existence or non-existence of leukocytosis,

the history and general appearance, all aid in reaching the conclusion. However, as a result of these observations it has been shown very clearly in the series of cases just mentioned, that in a certain number of them the writer at least was unable to make a diagnosis which stood the test of microscopical examination.

In the same way, the presence or absence of a blood Wassermann reaction has been of great assistance in detecting or excluding syphilis, and the experience of Professor Wolbach and the writer was very definitely to the effect that in bone lesions in children the Wassermann reaction proved a reliable guide in those cases which were checked up by a histological examination.

It seems best, therefore, to recognize that although in general a careful study of the x-ray combined with clinical findings will lead to sound conclusions, there is a very considerable minority of cases where the wise and experienced surgeon will express himself very guardedly as to the nature of the process. In these cases the writer has had recourse to the method of having a microscopical diagnosis made at the time of operation, and being guided in his treatment by the findings of the examination.

Nowhere is a closer correlation between x-ray appearances and microscopical findings more necessary and important than in the study of bone lesions.

The United States Public Health Service takes pleasure in announcing that, in response to an extensive demand for summer school work in public health, it has arranged with Columbia University, the University of California, the University of Michigan and the University of Iowa to conduct public health summer schools this year.

The faculties of these various summer schools will include many such leading specialists of the United States as Michael M. Davis (dispensary management), Robert H. Gault (criminal psychiatry), Emery Hayhurst (industrial hygiene), William J. Mayo (non-communicable diseases), E. V. McCollum and H. C. Sherman (nutrition), William H. Park (laboratory methods), Earl B. Phelps and George C. Whipple (public health engineering), M. J. Rosenau and Victor C. Vaughan (epidemiology), Thomas W. Salmon (psychotherapy), John H. Stokes (syphilis), Philip Van Ingen (child hygiene), C.-E. A. Winslow (public health administration), and Francis Carter Wood (cancer).

The Public Health Service has already received communications from several thousand physicians and sanitarians who hope to attend these summer schools. The widespread interest manifested thus early indicates that a large number will take advantage of this opportunity.

H. S. Cumming,
Surgeon General.

The Journal of the Iowa State Medical Society

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WOODROW WILSON

Mr. Wilson is dead and the time has come when we may do honor to one of the greatest men that America has produced. Mr. Wilson will never again disturb politics. It is interesting to read the high words of praise written by men who during his life never failed of an opportunity to pen the most disparaging things of him. But this is a characteristic of our press. The greater the man the more violent the attacks. It was so of George Washington, of Ben Franklin, of Judge John Marshall, of Abraham Lincoln and of Theodore Roosevelt. Why is it so? Is it peculiar to our institutions, our type of government? Thackery used to say, as did Disraeli the elder, that the public were always offended when any man rose above mediocrity, and it seems to be a fact that popular men are not great men. This is true of Republics.

Pericles, the great law giver of Athens, was hated above all men, although the greatest of Greece. The only men who escape are men of great wealth. It is not strange that great accumulations of wealth are more attractive to our ambitious young men than public service. The ultimate result is seen in the disclosure of the late Harding administration. People cry out in distress how such things can be, and yet we are responsible. We do not encourage the Wilsons, but rather the oil magnates; it has been so from the foundation of this government and will continue. It is not that we are a bad people, but a peculiar people.

Mr. Wilson came to the head of government

with a peculiar fitness and training. No president approached him in intellectual training except perhaps John Quincy Adams. Mr. Wilson was often spoken of in derision as a school master president, as if intellectual training and fitness was a disqualifying factor in the highest office in the gift of the people and the highest in the world.

Now, as we look back, we see in Mr. Wilson the highest type of our own idealism, what, in the brief moments of sanity, we most admire and believe in, the rights of the whole people. We all believe in Mr. Wilson's League of Nations, and yet, for five years we have tried to convince ourselves we did not; how many strange and illogical arguments have we used to convince ourselves we did not. We have in our brief moments of sanity admitted it, but we quickly lapsed into our apparently political insanity and denied it. How much happier the world would have been if our periods of sanity were longer.

The Chicago Tribune gives Mr. Wilson great praise, but holds that Mr. Wilson tried to do impossible things, too great for human mind, except we assume the Tribune editorial writer—Mr. Wilson believed in the common man, not the man who insisted on special privilege, and was not popular with such.

Mr. Wilson sacrificed himself to his ideals of the rights of the common man, who lives everywhere, the world over. He believed in truth and righteousness, which we all do in our periods of sanity, but the periods are too short and we quickly raise the question, does it pay? Many say that Mr. Wilson was a great psychological study, but is it not ourselves that are the greater psychological study?

To our little group of unqualified admirers of Mr. Wilson, who at times have remained silent when our idol has been held to contempt and derision, and felt as if we were ourselves the subject of ridicule, have comforted ourselves with the thought that these men, too, believe in the ideals of this man, but prejudice has blinded them to see the man Wilson, but would see him and believe in him when he was safely placed in the tomb and when the day finally came, they exclaimed, is it possible?

We often hear it said today that the physician has lost the high place he once held in the estimation of the public. Being one of the physicians of the "old school," our recollection runs back to the days referred to by Mr. Dixon and we have personal knowledge of many instances so graphically described. Is it to be wondered at that the people in these days looked upon the doctor with

affectionate regard? It was not the fee but it was service, and when the old doctor died there was but little left save the recollection of services rendered.

All that has not passed away, there are still men today like the "old school" physician who place service first and are entitled to the same consideration, but the world has sadly changed. The first question that arises in the mind of the witnesses at the funeral is, how much money did he leave, and when it is found to be only a very modest home, there are many who shake their heads and say, "the servant is worthy of his hire." We feel sure from the many expressions we have heard that there is much of the old sentiment still alive and that the devoted physician need not become discouraged and feel that his success is entirely measured by the money he has made. The world has changed in some of its standards and thinks in different terms, but the position of the physician has not materially changed.—Editor.

FILIPINO PHYSICIANS AND POLITICS

The Journal of the Philippine Medical Association complains that while the medical profession in the Philippines has been more or less conspicuous in local and national politics, they have devoted too much time to national affairs and too little to their own professional interests, and have not taken advantage of their influence in electoral campaigns. That they were more interested in the issues of national independence than in measures relating to the medical profession and health measures and explains the reasons in the following language.

The reason for this is that the conditions within the profession itself were in such a blissful state of laissez-faire. Nothing bestirred the medical profession sufficiently to galvanize it; consequently there was no occasion for militant professional consciousness to impose and assert itself. Such, however, is not the case today. The country is being over-run with pseudo-healers and medical faddists, mostly of American extraction we regret to say, coming to us as a most doubtful gift from the new civilization and the new democracy, and present indications are such that unless medical men choose to act, they are likely to receive a rude awakening."

COMPENSATION FOR SERVICES REQUESTED BY EMPLOYER

The supreme court of New York, appellate division, first department, in affirming a determination of the appellate term that affirms a judgment in favor of the plaintiff, says that the action was brought by a physician to recover the reasonable value of his ser-

vices rendered at the request of the defendant to a man that was injured while in its employ and during the course of his employment. Two defenses were set up: (1) That the court did not have jurisdiction of the action, as the workmen's compensation law of the state confers exclusive jurisdiction on the compensation commission to determine the value of physicians' charges in such cases, and (2) that the action was barred by the workmen's compensation law. But the court does not accept the defendant's views. When the employer provides the medical attendance and treatment, the compensation of the employe for injuries must be based solely on the loss of earning power. It is only in case of the employer's refusal or neglect to furnish the necessary medical attendance or treatment that the expense thereof can be recovered as part of the employe's compensation for his injury. In the latter case, the fixing of the reasonable value of such service is exclusively vested in the commission and allowed as a part of the employe's compensation, and the amount fixed becomes a lien on the compensation awarded. The statute does not concern itself with the contract that the employer makes with the physician or surgeon, when the employer provides the medical attendance. He is at liberty to make any agreement that to him seems proper, and make such payment as he may stipulate, for the amount that he pays is not a part of the compensation to be awarded. If the employer hires the physician, it is simply a matter of contract between the physician and the employer. If the amount to be paid is stipulated, the physician is entitled to that sum. If no amount is named, the physician is entitled to receive the reasonable value of his services. A failure to pay gives rise to a common-law action that may be prosecuted in the courts. There is no more reason for giving the commission the right to limit or control the sum to be paid under this contract of employment than there would be to require all contracts with employes to be submitted to the commission to pass on the reasonableness of the wages agreed to be paid.—The Journal of Michigan State Medical Society.

COMPENSATION FROM EMPLOYER BARS RECOVERY FROM PHYSICIAN FOR MALPRACTICE

(Pitkin vs. Chapman [N. Y.], 200 N. Y. Supp. 235)

"The Supreme Court of New York, Special Term, Warren County, in granting a motion made by the defendant, a physician, for a judgment on the pleadings, says that he was charged with malpractice in treating injuries sustained by the plaintiff in a fall from a piazza roof. The defendant's answer alleged that the plaintiff had been awarded \$1,374.26, under the workmen's compensation law, for all his injuries, based on his condition at the time of the award, which sum he received before the commencement of this action. It also appears that the alleged malpractice occurred before the final award.

"There can be but one recovery for the same wrong.

Satisfaction by one joint tort-feasor or wrongdoer has always been considered a bar to an action against another. Though an original injury is added to by a second fracture, resulting while the injured employee is acting in a prudent manner, the insurer, liable under the workmen's compensation law for the first injury, is also liable for the additional one. If a person injured employs in good faith a physician reputed competent, the original wrongdoer cannot escape entire liability, though the injuries are aggravated—or even death results—because of mistakes in medical treatment. A wrong-doer cannot take advantage of the mistakes of a physician or surgeon in treating an injury. The mistake of a physician could not have occurred but for the original wrong. Therefore the physician is not an intervening person responsible to the injured, if the injured seeks to hold only the original wrong-doer. This has been held so often in actions at common law that in such cases it is not an open question. The workmen's compensation law of New York state does not alter this just and salutary principle. There can still be but one compensation for one wrong. That act provided a sure and certain compensation for a workman injured in the course of his employment. It did not provide or attempt to provide, in contravention of the common law, that there could be but two recoveries for what the common law had theretofore held to be one wrong—one injury.

"The compensation law requires the injured employee to elect whether he will take compensation thereunder or proceed under his common-law rights. Having once elected, he is bound thereby. The remedy is exclusive. Since there can be but one recovery for an injury, the statute provides that, that when another is partly or wholly responsible therefor, the one paying shall be subrogated to the remedy of the employee against such other. And this must be true, whether the wrongs of two tort-feasors were simultaneous, or whether one wrong, as was alleged in this case, was subsequently committed. Here the employer responded in full for the injury, including the malpractice alleged. If any action lay against the physician, it was one in favor of the employer, who was subrogated to such right.—Journal A. M. A.

MEDICAL DEFENSE IN OKLAHOMA

The committee calls attention to the "disposition of members to undertake the settlement of their own cases without the slightest consultation or advice of the association attorneys of such move. This is often done through panic or acceptance of poor or inefficient advice. It invariably leaves the association in an embarrassing situation through no fault of its own, but through disregard and discourtesy on the part of the defendant physician we have been attempting to aid."

"We again call attention to the unnecessary waste we are called to suffer, whenever one of our members is adequately protected through possession of

an indemnity policy, protected in every detail as to costs of his suit and any possible judgment against him, insists that the Medical Defense Fund undertake his defense in addition thereto, all of which is very foolish waste."

The committee further complains that "the defendant physician is found following the advice of his indemnity attorneys, settling the case to save that company a little money, when as a fixed principle the case should be contested to the bitter end, up through the Supreme Court."

In Iowa we have none of these difficulties; except in very rare instances the defendant physician refers his case to the committee or our attorney, so far as the indemnity attorneys are concerned, we co-operate with them in the best defense possible to avert the judgment and to protect the good name of the defendant physician.—Editor.

MALPRACTICE JUDGMENTS

According to the Federation Bulletin, a judgment was rendered against Dr. Frank M. Walsh of St. Johnsbury, Vt., for \$7,000 for malpractice—\$23,000 was claimed.

A judgment was rendered against Dr. John Stuart of Monon, Indiana, for \$30,000 for malpractice.

It was alleged that Dr. Stuart diagnosed a case of osteomyelitis as rheumatism, resulting in a serious deformity in a boy sixteen years old.

REAPPORTIONMENT HOUSE OF DELEGATES, 1924

This will be based on the number of members reported paid by each state at the office of the American Medical Association, April 1, 1924.

It should be the ambition of the medical profession of Iowa to make as good a showing as possible. We therefore urge every member to send his dues at once and also urge that every county medical society add as many new members as possible, early enough to be reported before April 1.

REDUCTION IN THE ANNUAL FELLOWSHIP DUES OF THE AMERICAN MEDICAL ASSOCIATION

The board of trustees of the American Medical Association has authorized a reduction of the annual Fellowship dues, including a subscription to The Journal, to five dollars per annum to take effect January, 1924. Perhaps this reduction is justified in view of the reserve on hand, and yet we cannot help feeling that some of the activities of the association may have to be curtailed as a direct result of a reduction in the amount of the annual income. There also is the question of increased activity, perhaps in new fields, to be considered when the budget of expenditures is made up. Notwithstanding the fact

that some doctors continually are howling about the amount of dues they pay to medical societies yet we believe that most of the men worth while would prefer that the dues of the A. M. A. remain what they are now, and the increasing surplus be used in new fields of activity, especially in carrying on those enterprises which are of direct benefit or assistance to the individual members of the association.—Journal of Indiana State Medical Association.

THE PUBLIC HEALTH SUMMER SCHOOLS 1924

The University of Iowa, Iowa City, June 9 to July 18.

The University of California, Berkeley, June 23 to August 2.

The University of Michigan, Ann Arbor, June 23 to August 2. (Certain courses at the University of Michigan will continue two additional weeks.)

Columbia University, New York City, July 7 to August 15.

Conducted with the cooperation of the United States Public Health Service, Washington, D. C.

The recent development of various new health movements (industrial hygiene, child hygiene, social hygiene, mental hygiene, cancer control, and tuberculosis work) and the eagerness of many progressive physicians and sanitarians to have a more effective part in the reduction of disease and in the establishment of vigorous health among the people have led to a widespread desire for supplementary training in preventive medicine.

This desire was demonstrated, for instance, in connection with the venereal disease institute conducted by the Public Health Service in the fall of 1920. So great was the demand for systematic study in this field that over four times as many persons were enrolled as were expected. Later the service assisted the state departments of health in conducting a series of general institutes. At some of these local institutes the attendance was even larger than at the venereal disease institute in Washington.

Successful as were these short term institutes, it is evident that there is now a demand for institutes or schools which will give an opportunity for more thorough study. This demand has been shown by the extensive response to an inquiry recently made by the Public Health Service indicating that a large proportion of several thousand persons consulted would like an opportunity of attending a six weeks' institute. These responses further indicated that the summer season is the time preferred by the largest number for such training.

Accordingly arrangements have been made to establish during 1924 summer schools extending over a period of six to eight weeks at the institutions named above. Courses covering a wide range of subjects will be offered; laboratories will be available; clinical material will be used for demonstrations, and other measures will be utilized to make the work highly practicable. The tuition fees will

be moderate—ranging probably from \$25 to \$54 (or in a few instances more) for the entire summer school depending on the university and the number of courses selected.

The aim of these summer schools is (1) to provide up-to-date intensive training for all persons engaged in any kind of public health work; (2) to furnish up-to-date instruction which will enable practicing physicians to deal effectively with the more important causes of mortality and disability, especially cases referred by industrial clinics, school clinics, public health nurses, and similar agencies; (3) to bring together practicing physicians, health officers and other sanitarians and thus to establish a more co-operative relationship in the work of disease prevention.

The University of Iowa, Iowa City
June 9 to July 18

Epidemiology.
Tuberculosis.
Syphilis.
Cancer.
Pediatrics.
Diseases of the Eye, Ear, Nose and Throat Among Children.
Orthopedics.
Surgical Specialties.
General Bacteriology.
Special Bacteriology.
Public Health Laboratory Procedure.
Public Health Engineering.
Water and Sewage Disposal.
Management of Clinics and Health Centers.
Organization of County Health Centers.
Public Health Law.
State and Local Health Administration.
Rural Health Work.
Kinesiology.
Psychology.
Psychology of Child Development.
Abnormal Psychology.
Research in Psychology.
Speech Correction.
Mental Diseases.
Nutrition.
Oral Hygiene.
Dental Hygiene.
School Hygiene.
Physical Education in Public Schools.
Hygiene of Swimming Pools and Gymnasias.
Principles of Public Health Nursing.
Hospital Social Work.
Genetics and Eugenics.
Heredity and Genetics.
Population and Eugenics.
Urban Problems.
Charities and Corrections.

The University of Michigan, Ann Arbor
June 23 to August 2

Epidemiology and Communicable Diseases.
General Hygiene and Public Health.
Applied Hygiene and Public Health.

Tuberculosis.

Venereal Disease Control and Social Hygiene.

Diseases of the Heart and Arteries.

Diseases of the Kidneys.

Principles of Animal Biology.

Histology.

Laboratory Work in Bacteriology.

Vaccines and Serum Reactions.

Clinical Microscopy.

Special Pathology of the Infectious Diseases.

Experimental Pharmacology.

Physiological Chemistry, General and Advanced.

Physiology: General, Mammalian and Human.

Clinical Medicine.

Food and Drug Analysis.

Intensive course in the Practice of Public Health Laboratories, offered by the Michigan State Department of Health, Lansing.

Physical Examinations and Diagnosis.

Management of Clinics and Health Centers.

Public Health Administration.

Industrial Hygiene.

Sanitary Engineering.

Elementary Psychology.

Psychology for Public Health Nurses.

Psychology of the Abnormal and Occult.

Mental Hygiene and Psychiatry.

Principles and Practice of Social Case Work, including Protective Social Work and Delinquency.

Nutrition.

Child Hygiene.

Maternity Hygiene.

School Hygiene.

General Course in Physical Education for Women.

General Course in Physical Education for Men.

History and Fundamental Principles of Physical Education.

Community Play and Recreation.

Principles of Public Health Nursing.

Vital Statistics.

Elementary Methods in Statistics.

Mathematical Theory of Statistics, General and Advanced.

Theory of Probability.

Social Organization.

Social Evolution.

Immigration.

Criminology.

Community Problems.

Heredity.

Principles of Economics.

General Economics.

Municipal Government.

Elements of Journalism.

Principles of Expression.

Extempore Speaking.

GRADUATES TO MEET

Dr. H. C. Young of Bloomfield, Iowa, secretary of the class of 1891, Keokuk Medical College, is making an effort to locate all graduates of the old school and asks the cooperation of the general public in furnishing information.

On June second, next, a reunion will be held at Iowa City to which each and every graduate of the Keokuk Medical College is cordially invited and urged to attend.

Iowa newspapers are asked to assist in giving this matter publicity. Address all communications to Dr. H. C. Young, Bloomfield, Iowa.

MEDICAL SOCIETY MEMBERSHIP

We received the following communication from Dr. Van Meter some time ago and have been waiting for an opportune moment to publish it. The comments he refers to were taken from the Northwest-Lancet—with due acknowledgment—and applied to Minnesota, but evidently Dr. Van Meter believes Iowa is near enough to Minnesota to have the same facts apply:

"The Journal recently commented most too briefly on a matter of vital importance dismissing it with one or two paragraphs something as follows:

Why are eligible physicians outside the county or district medical society? Friendly inquiry revealed the following reasons as noted in the Journal-Lancet, Minneapolis."

1. The society is run by a clique for self advertisement.
2. Benefits do not pay the cost of membership.
3. The society is not interested in me.
4. The papers are read mainly by specialists and are of no interest to the general practitioner.
5. Dues are too high.
6. Legislative or protective benefits are nil.
7. Commercialism, not ethics, govern the society.

To endeavor to make the county profession 100 per cent members is an aim no one can criticise. Consideration of the reasons given above admits some light and does no harm if not a great deal of good.

First: No clique can run the society for each member has a vote, but only one, and an equal voice in the elections, management and meetings. This is not a new objection however so it must have some basis in fact as well as fancy. How it happens is a question that should be solved and the matter corrected as far as possible. Practitioners as other individuals differ and some have no liking for administrative work so it naturally falls to the lot of other practitioners who may enjoy it and be willing to contribute time and effort to the minutiae and detail of the society's work. As a result the latter class is perpetuated in office by the former's votes, perhaps year after year while some new member or some more modest yet fully as capable member keeps in

Your 1924 membership card will be your mark of eligibility to register at the Seventy-Third Annual Session, Des Moines, May 7, 8 and 9. Have you paid your 1924 dues to your local secretary?

the background. Finally one can see how such a situation does develop the idea that a clique exists.

Remedy: Pass the offices around, assuming that any member joining the society is capable and willing to fill its official positions. An election is always soon to be held and another follows closely in its wake.

Second objection: Costs disproportionate to benefits. Some truth here too! What does the society offer its members which is not also available and utilized by non-members living in the same community and practicing under like conditions? Non-members by neglecting to join lose no caste in the lay opinion—even gaining in some quarters by refusing to belong to the so-called “medical trust.” Non-members are as welcome at society meetings, may partake of society banquets and picnics, may subscribe to society journals, and enjoy all the titular honors of a society member. The society has no interest in the economic problems of its members more than the same dispassionate interest it holds in those of their colleagues who are not members. True it is linked up with the State Society an organization fathering the Field Activities Committee which promises well for the future but which so far can give only the will for the deed, having averaged two communications per county per year. The county society fosters no post-graduate scheme of instruction for its members, performs no credit bureau functions, puts forth no sustained efforts to support local or general health movements by advertising campaigns (not in the name of individuals which would be reprehensible but in the name of the society which would be commendable).

On the other hand, its real benefits are not to be scoffed at and are many. For instance: it links up the individual with the whole profession of the land—from county to state to nation. It gives him protection against maligners and imposters or even against unfortunate accidents which occurring might cost him his entire worldly goods or sacrifice his professional standing in the community, as the result of one successful malpractice suit against him. It gives him gratis a splendid array of medical literature in the state journal (though one could wish its editor were permitted by a less strenuous life to actually write personal notes about the profession instead of “lifting” them verbatim from local papers all over the state, without credit). It permits the member to write and deliver papers before his fellow members on any timely topic he may have knowledge upon (or wish to acquire). It permits him to bring unusual clinical cases before the society for discussion and instruction.

Third objection: The society is not interested in me. Hard to deny. In an academic sense of course the society is interested, for what each member does, says or is, affects the society itself. However there have been too infrequent demonstrations of affection for the individual member. He has been solicited for contributions to post-graduate funds, has been asked to pay his share of the traveling expenses of specialists who consent to come and address his so-

ciety and partake of its eats, etc., but as far as the society ever placing in his hands any real contributions which did not have some string attached, the oldest inhabitant can recall few if any. The society has not brought teachers (aside from the momentary landing of celebrities in their cross country flights) to his door, hospitals within reach of his patients nor bill collectors except those headed for the doctor himself. The society doesn't show interest in the member physician by rewarding his attendance on its meetings nor by penalizing the non-attendance of his colleagues. It meets in regular session and passes its strictures upon non-professional, questionable practices (which is less severe punishment to him than a slap on the wrist) instead of going to his community and spending actual coin of the realm in advertising of what real professional consists and does not consist.

Fourth objection: That papers are read mainly by specialists is a criticism that may be true in a measure although personal experience locally is to the contrary. It is a criticism that should be borne in mind as “professionalism” is the bane of any profession and ours least of any, has a right to be impractical. The times especially demand that we get down to fundamentals if we would win or hold the esteem of the public.

Fifth objection: Dues are too high. What club can one cite with less dues—even a card club, Gyros and Chiros, Chamber of Commerce, Kiwanis, Rotary all charge more. Personal opinion is that a higher membership fee would attract more members, give more strength to the society, and permit it to function more helpfully.

Sixth objection: Legislative benefits have been hard to estimate in the very nature of things but have been more real than popularly imagined. That they have not been greater is due not to inactivity or inability of the legislative committee but a lack of cooperation and cohesiveness of the individual membership throughout the jurisdiction. There should be more and the legislative committee should plan and actively solicit the cooperation of the profession in each community not for defense but offense offering for passage through local legislators such bills as are timely and good for the public weal.

Protective benefits are what the revenue from dues permit them to be if they should be more, raise the dues. Nothing can come out of the grinder that does not go in as grist!

Seventh: Commercialism is the bane of modern life and so its tentacles have gripped our profession too. Nevertheless, the organized profession is less in its clutches than any individual member who fails to affiliate with the society and then claims exemption from its ethical program.

Rockwell City, Iowa, Feb. 20, 1924.

The Twin Lakes District Medical Society composed of Calhoun, Carroll, Greene, Pocahontas, Sac and Webster counties held their second annual assembly on February 14 at the court room in Rockwell City with approximately seventy-five physicians

in attendance. The scientific papers were of a uniformly high order. A splendid address on Fractures illustrated with lantern slides was given by Dr. Dennis W. Crile of the Ochsner Clinic, Chicago, from an experience enriched by an extensive military practice.

The district councillor W. W. Beam, being absent in California, the response to the address of welcome was made by Dr. G. C. Moorhead of the eleventh district who stressed the need of the profession appraising its services and noting its weak points which he said records showed to be along the line of diagnosis, pediatrics and obstetrics in this district of rural Iowa.

The society voted down the project of additional seasonal meetings, leaving only this and the summer meeting at Wall Lake for future assemblies.

After the banquet there was general participation in the roll call and discussion of the scientific program.

P. W. Van Metre, M.D., Sec'y.

TWIN LAKES DISTRICT MEDICAL SOCIETY

Address of Welcome to Twin Lakes District Medical Society February 14, 1924, by W. J. Dixon, vice-president Rockwell City Chamber of Commerce and a former member of the State Board of Control:

Rockwell City would be glad to welcome any body of citizens, farmers, lawyers, business men within our gates.

We are going to have the Northwest Iowa Conference of the Methodist Episcopal Church with us this autumn and we will be glad to entertain the ministers on that occasion; however, we are especially pleased to have as our guests today, this body of medical men from this district comprising six counties in this part of Iowa.

I have been rereading that beautiful and reverend book that was read by most of us some twenty years ago "Beside the Bonnie Briar Bush." In the story you will remember the old Scotch physician, Dr. William MacClure settled in the village of Drumtochty in the highlands of Scotland and devoted his life to the services of the sick in that community for fifty years; he faced floods and storms by day and night and gave his life to the service of his fellow-men. His compensation was meagre—hardly enough to buy books and attend the lectures in Edinburgh town, and keep up with his profession. You will recall how at his own expense he engaged the famous London surgeon to come down to Drumtochty and perform a difficult operation on one of his patients and how proud the natives of Drumtochty were, when on the station platform, the greatest physician in all England grasped the country doctor by the hand and said, "Dr. MacClure, you are an honor to our profession." Dr. MacClure was a doctor of the old school.

There are other doctors of the old school that are an honor to the profession. Fifty years ago as I worked on a farm in Audubon county, a wife and

mother was about to give birth to the most beautiful thing in all the world—a little child. The mid-wife was present but met a condition in the patient that she could not take care of. It was necessary that a physician be secured at once. The nearest doctor was at the old inland town of Coon Rapids some thirteen miles away, and I was dispatched on a fast horse to get the doctor to the farm house as soon as possible. I must have driven the horse at a fast pace for he died three days later. I found old Dr. Blakely dozing in front of his stove in his office. He had been out all night visiting patients and was tired and hungry. When I explained to the doctor the urgency of the case, he did not hesitate but in less than five minutes he was on his way and arrived in time to save the life of the mother and child.

My mind reverts to another physician, another doctor of the old school. For thirty years this man has faced the blizzards of winter, riding across the prairies of Sac county to the distant farm homes to visit the sick mother or child. No night was too dark for him—no storm too fierce for him to face, no road so impassible but he must go where duty called him. His mission was to visit the sick, alleviate pain, relieve the distressed and cheer the down hearted. He gave his life to the service of the people of that community with little hope of reward. His hair is silvered with age; his face seamed with the effacing finger of time; his form bent. He went about his work with one thought, one purpose—living to help mankind. His compensation was so meagre that now being stricken himself with disease he barely has enough of this world's goods to keep the wolf from the door.

These doctors of the old school—and their counterparts can be found in every county in Iowa, have built up an esprit de corps of a high order for the profession. And they are and always will be an honor to the profession.

The greatest thing in the world after all, is not wealth, honor, position or power. It is not even the great thing character. The greatest thing in the world is service. Judged by this standard surely these doctors of the old school will take a high rank; they have lived a life of service.

The physician comes very close to the life of the family. He ushers the sweet little babe into the world. He looks after and preserves it in the completeness of boyhood and girlhood. He watches over its development into more complete manhood and womanhood; his protecting care extends to us when we have passed life's meridian and goes with us to an "old age serene and bright, as lovely as a Lapland night" to the end.

The great physicians of this country past and present, come largely from the humble homes in the small towns. The Mayos, sons of a country doctor, Murphy of Chicago was once a country practitioner and the busiest, if not the best surgeon in our capital city, I remember as a young man struggling to earn his way through college. And who knows but in this gathering of country physicians there may be some

"mute and inglorious Miltons" that will be the great surgeons of the future.

Let me then on behalf of the Chamber of Commerce and the citizens of Rockwell City extend to you a right royal welcome. We hope your stay with us will be pleasant and profitable, and that you will leave us with pleasant memories of your visit to Rockwell City.

SOCIETY PROCEEDINGS

Clinton County Medical Society

Clinton County Medical Society held an interesting session February 8. The program consisted in the presentation of Differential Diagnosis of Endocrine Disease by Professor John L. Tierney, professor of medicine St. Louis University. The discussion was based on the effect of hypothyroidism and pituitary disease, stressing hypopituitarism, illustrated by many screen pictures. The peculiar merit of the presentation was the effect of decreased endocrine secretion on metabolism, showing in the first series of cases the influence of hypothyroidism on body and mental development and the striking effect of thyroid treatment in these cases.

In the second series was illustrated acromegaly and gigantism as the result of different types of pituitary disease involving the anterior and posterior lobes, presumably of the hyo type. In this connection was presented the influence of pituitary extracts. Great stress was placed on the importance of painstaking study of the particular case to reach an accurate differential diagnosis. Dr. Tierney described polyglandular treatment and insisted that the diagnosis should enable the physician to use but a single gland extract, if the desired results were to be obtained. It was a most happy exposition of a subject too little understood by the profession.

The inspiration which led the program committee to invite a considerable number of interested and influential lay citizens was most fortunately, in that it invited a cooperation on the part of those whose help is needed in the care of a most unfortunate class of persons who need more than sympathy—intelligent care and treatment—particularly children and young people.

The program committee was also fortunate in providing a banquet at the Lafayette Hotel for the members of the society and invited guests, which stimulated a generous feeling of interest before the medical program began.

Four County Medical Association

At a meeting held February 17 the organization of the Four County Medical Association, including in its membership physicians and surgeons of Ida, Buena Vista, Plymouth and Cherokee counties, was completed. A distinctive name will be adopted. The first meeting will be held in Cherokee, Wednesday, February 27. Dr. Miller, of the state hospital is president; Dr. Harrison of Alta, vice-president; Dr. Joynt of Le Mars, secretary-treasurer.

The sole purpose of this organization is for the promotion of scientific study of medicine and for the exertion of influence to better safeguard public health, an issue upon which the medical fraternity has a purpose to enlarge.

All ordinary business of associated physicians and surgeons will have attention through county associations. This four county organization will confer the strength of numbers and enrich conferences through multiplication of available experience.

Hamilton County Medical Society

The regular meeting of the Hamilton County Medical Society was held on February 6, 1924, at the Hotel Willson, Webster City. The following officers were elected: President, Dr. Bert Fellows; vice-president, Dr. J. L. Peppers; secretary and treasurer, Dr. R. M. Wildish; delegate to state convention, Dr. M. B. Galloway; censor, Dr. W. W. Wyatt. Plans for the coming year and other regular business of the society were discussed.

Linn County Medical Society

The Linn County Medical Society met at Montrose Hotel, Cedar Rapids, Wednesday evening, February 27, 1924. Dr. Arthur H. Steinler, head of the orthopedics department of the University Hospital at Iowa City read a paper on reconstruction work on the upper extremity giving technique of operations, illustrated with lantern slides. After the paper a buffet luncheon was served in an adjoining room to the physicians.

Marion and Jasper County Medical Societies

A union meeting of the Marion and Jasper County Medical Societies was held at the Mary Frances Skiff Memorial Hospital the afternoon of November 9, 1923. The entire afternoon was devoted to the following surgical and medical clinic, and also two papers:

Surgical Clinic, Removal of Prostate, by Dr. Nathaniel G. Alcock of Iowa City, followed by a talk on Diseases of Genitourinary Tract, with presentation of three previously operated cases.

Diseases of the Heart and Hypertension, with the presentation of six cases, by Dr. Walter L. Bierring of Des Moines, Iowa.

Papers were read by Dr. H. C. Payne of Pella, Iowa, on Diabetes from the Standpoint of the General Practitioner, and Dr. W. E. Lyon of Newton, Iowa on Fractures in and near the Foot. Both papers followed by a free discussion.

Over forty doctors were present and at the close of the meeting, adjourned to the Newton Country Club, where a fine banquet was served, followed by toast and music and a general good time.

W. E. Lyon, Sec'y.

Poweshiek County Medical Society

At the last election of the Poweshiek County Medical Society the following officers were elected: Dr. L. F. Crain, president; Dr. F. E. Simeral, secretary.

Election of Officers Missouri Valley Medical Society
September 20-21, 1923

President, Dr. H. J. Lehuhoff, Lincoln, Nebraska; first vice-president, Dr. Palmer Findley, Omaha, Nebraska; second vice-president, Dr. J. W. Waterman, Burke, South Dakota; treasurer, Dr. O. C. Gebhart, St. Joseph, Missouri; secretary, Dr. Charles Fassett, Kansas City, Missouri.

Place of meeting 1924, Des Moines, Iowa.

Election of Officers National Tuberculosis Ass'n

President, Dr. Chas. L. Minor, Ashville, North Carolina; vice-president, Dr. Robert Lynch, New Orleans, Louisiana; vice-president, Thomas A. Groover, Washington, D. C.; secretary-manager, Mr. C. P. Loran, Birmingham, Alabama; editor, Dr. M. T. Dabney, Birmingham, Alabama.

Next meeting will be held in New Orleans in November, 1924.

The Des Moines Academy of Medicine held its February meeting at the State Historical building. Dr. David S. Lewis, professor of clinical medicine, McGill University, was the guest of the academy, and gave an illustrated address on Great Discoveries in Scientific Medicine. The members of the Academy were received in the State Medical Library by the medical Librarian and her secretary.

PERSONAL MENTION

Dr. M. G. Wohl, pathologist of Mercy Hospital, Council Bluffs, Iowa, was invited to present the subject of Sporotrichosis before the February meeting of the Pathological Society of the College of Physicians of Philadelphia. Dr. Wohl read a paper on a similar subject before the San Francisco meeting of the American Medical Association last June. The paper was regarded of sufficient importance to be translated for the Spanish edition of the American Medical Association Journal. The Doctor at present is taking post-graduate work in Philadelphia.

Dr. C. E. Broderick, captain in the medical section of the officers' reserve corps, and a practicing physician in Newton, left Saturday, January 26, for New York City and will sail for Europe with Vienna as his objective where he will enter the University of Vienna for a year's study of diseases of the eye, ear, nose and throat. Enroute he will stop in London where he plans to visit William Stanley, a former employe of the Automatic Electric Washer Company.

Dr. Albert Yocom of Chariton has been invited to make an address before the Coast Association of X-ray Practitioners at Los Angeles, California, during the first week in March. This is a merited recognition.

Dr. Ladislaus Slominski has located in LeMars for the practice of his profession. Dr. Slominski was born in Poland, speaks several European languages fluently. He saw service in the World War and is a member of the American Legion.

Dr. and Mrs. Wilton W. McCarthy will leave Saturday evening, February 2 to join Mr. F. C. Hubbell in a three months' cruise aboard the Black Swan on the Pacific Coast and in the Gulf of California. Others in the party will be Mr. and Mrs. B. F. Kauffman and Mrs. Frederick W. Hubbell.

Dr. Charles S. James and wife of Centerville, are visiting in Los Angeles, enjoying the climate, scenery and roads, for Dr. Shuman assures us that Dr. James has purchased a Buick car for this purpose.

MARRIAGES

Dr. Ray H. Dean of Washington, Iowa, and Miss Marie Clifford, also of Washington, were married at Sigourney February 4, 1924.

HOSPITAL NOTES

Dr. Oliver J. Fay of Des Moines, delivered the graduating address before the Washington County Hospital, January 24, 1924.

The Samaritan and the Methodist Hospitals of Sioux City are to be merged under one management, according to the Sioux City Journal.

Dr. Charles L. Marston of Mason City was elected president of St. Joseph's Mercy Hospital staff at its recent annual meeting.

Plans are being prepared for the organization of a \$300,000 hospital at Ottumwa, under the direction of the Sisters of the Holy Humility of Mary.

The new Coleman Hospital of sixty bed capacity, at Estherville, will be opened to the public about March 1.

At the annual dinner of the staff of St. Luke's Hospital held January 22, Dr. William L. Allen was again chosen president of the hospital physicians. Dr. P. A. Bendixen, vice-president; Dr. Paul A. White, secretary and Dr. S. G. Hands, treasurer.

The executive committee chosen consists of Dr. White, Dr. George Middleton and the chairman, Dr. William H. Rendleman.

An interesting talk by Dr. H. C. Bumpus of the Mayo hospitals at Rochester, Minnesota, was a feature of the evening. "Some Aspects of Focal Infection That Are Commonly Misused," was the title of the address.

The regular meeting of the Mercy Hospital staff, Webster City, January 29, at 6 o'clock at Mercy Hospital and a dinner was served by Mrs. C. H. Comley, following which a program was given.

Dr. R. C. Crumpton read a paper upon Researchers on Conditions of Ancient Egyptian Mummies.

Dr. Forest F. Hall gave a five minute talk upon the Infections of the Middle Ear, dealing with mastoid and its treatment.

Those present from out of the city last night were Drs. Slater of Jewell, Bushby of Kamrar, Lewis of Kamrar. Locally the following physicians were present: Drs. M. B. Galloway, R. C. Crumpton, G. T. McCauliff, W. W. Wyatt, O. C. Buxton, O. A. and F. F. Hall, Bert Fellows, Mary Nelson-Hotchkiss, E. E. Richardson.

Completion of plans for a new addition to St. Joseph's Hospital, Sioux City, was announced Wednesday night, January 23, by Sister Michael, superintendent at the hospital.

The plans were completed Saturday by Mother Ursula, supervisor general of the Sisters of Mercy, who came to Sioux City from Dubuque, Iowa, where she has her headquarters.

The new addition, which will cost approximately \$200,000, will be built on the northwest corner of the present building occupied by the hospital.

Plans have been given to about a half dozen local contractors, and bids for the work will be opened on February 20.

OBITUARY

Dr. Albert Edgar King of Brockton, Iowa, died at his home in Brockton January 16, 1924, at the age of sixty-five years.

Dr. King was born at Burlington, Coffey county, Kansas, May 31, 1858. His grandfather came to Iowa in 1839 and soon after located in Jefferson township, Taylor county. In 1860 his father moved to Plattsville.

After completing his preliminary education, Albert decided to become a physician and entered the Keokuk Medical College, from which he graduated in 1881. He at once opened an office in Redding, where he practiced until 1894. In 1894 he entered the Hospital College of Medicine at Louisville, Kentucky, where he received an additional degree and then located in Brockton, where he practiced to the time of his death. He also took graduate work at the Chicago Polyclinic in 1908 and at various times special courses in New York City.

Dr. King was a student in his profession and gained an extensive and influential practice. He was a member of his county medical society, the Iowa State Medical Society and the American Medical Association. He was also a member of the Missouri Valley Medical Association, and the Tri-State District Medical Association.

In 1878 he married Miss Ida May Castor, a native of Missouri, who died February 4, 1891. Dr. King had one son by his first wife, Dr. T. W. King, who is practicing at Lamoni. In November, 1893, he again married, Miss Lydia J. Shuff of Worth county, Missouri, who survives him, and one son who is an interne in Des Moines hospital preparing for the practice of medicine and one daughter, Ruth Madeline, who is a graduate of the Iowa State University.

Dr. B. H. Miller assures us that Dr. King never missed a meeting of the State Medical in the many

years he had known him (Dr. King became a member in 1895).

Dr. John W. Lauder of Afton died at the Greater Community Hospital, February 4, 1924.

Dr. Lauder was born at Burtonville, New York, July 20, 1850. When four years old his family moved to Wisconsin and later to Winfield, Iowa, where he received a common school education. At the age of sixteen he entered the Wesleyan College, graduating in 1872. He then entered the medical department of the Iowa University, from which institution he graduated in 1874. He located in Burlington, where he practiced one year and in Pleasant Grove for two years. In 1877 he located in Afton, where he practiced the remainder of his life, except for a short time in Des Moines. January 9, 1879 he married Miss Elizabeth Hays, who survives him, also a son and daughter, Dr. C. H. Lauder of Los Angeles and Mrs. Jacob B. Gripp of Afton.

He was a member of the 25th and 26th General Assemblies. For six years, from 1906 to 1912, he was a member of the Board of Regents of the Iowa State University, and for thirty years local surgeon for the C. B. & Q. Ry. Co.

Dr. Lauder was a successful physician and a much respected member of his community and occupied many places of trust.

His friend and associate Dr. F. E. Sampson says of him: "For upwards of forty years he labored with undiminished vigor and unremitting zeal, so faithfully, in fact, that failure to consider himself came near costing his life. But recovering from a major surgical operation, he returned to active practice and to the limit of his physical powers, continued to serve the people of his community almost to the end of his life."

Dr. C. C. Wiggins of Osage died November 17, 1923, from perforating ulcer of the stomach.

Dr. Wiggins was born January 17, 1865 at West Charleston, Vermont. When a small boy his parents, who had some interests in Osage, moved to Osage, where the boy Charles grew up and where he attended the public schools. He graduated from the Cedar Valley Seminary in 1883, and two years later entered the State University, later entered the Chicago Homeopathic Medical College, from which he graduated in 1889. He first opened an office in St. Ansgar, removing to Osage in 1893, where he practiced until overtaken by his fatal sickness. During the late war Dr. Wiggins offered his services for medical work in France, but for various reasons was not accepted, he, however, devoted much of his time to home service in prosecuting the war.

Dr. Wiggins was a member of the Mitchell County Medical Society, the Waterloo Medical Association, the Hahnemann Medical Association of Iowa, of which he was vice-president in 1903—of the American Institute of Homeopathy and the American Medical Association.

In 1917 he married Miss Olga Becker who survives him.

Dr. D. S. Bradford of Janesville, Bremer county's pioneer physician, died at his home on Saturday morning, February 2, at about six o'clock in the morning, death resulting from a stroke of paralysis which he suffered a day or two before that time.

David S. Bradford was born in Schoharie county, New York, on December 4, 1840. When only nine years of age he moved to Saratoga county. In 1866 he graduated from the Albany Medical College. After practicing for a few years in Rock City Falls, New York, he came to Janesville in 1869, and there has practiced for fifty-five years.

In the death of Dr. Horace A. Kinnaman, which occurred yesterday afternoon at his home, where he has been ill for a number of weeks, Keokuk loses one of its doctors of the old school, a graduate of the old Keokuk Physicians' and Surgeons' College, and a member of the staff of the college and of St. Joseph's Hospital Training School. Dr. Kinnaman was a man who made himself entirely through his own efforts, and his study of medicine was achieved at odd times between his work as a train despatcher.

Dr. Kinnaman was a prominent figure in Keokuk where he was so well known. He had served Lee county for many years as physician, and his interest in the welfare of the people in the county home near Summitville was a personal one. Whenever state inspectors were here he always took a pride in their report of conditions as they found them especially where the medical feature of their care was concerned.

For a number of years he served the Burlington route here as its physician. He was on the staff of instructors of the college and nurses' training school at St. Joseph's but found time in between all of his duties to enjoy his favorite pastimes, fishing and hunting. He was interested in outdoor recreation of this sort.

Dr. Kinnaman was seventy-seven years old, and was born October 17, 1846. He was a graduate of the College of Physicians and Surgeons of Keokuk in the class of 1882 and of the Jefferson Medical College in Philadelphia in 1884.

BOOK REVIEWS

GENITOURINARY DISEASES AND SYPHILIS

By Henry H. Morton, M.D., F.A.C.S., Professor of Genitourinary Diseases and Syphilis in Long Island College Hospital, and Genitourinary Surgeon to the Long Island Hospital and Polhemus Memorial Clinic, Etc.; Fifth Edition, Revised and Enlarged, with 328 Illustrations and 38 Full Page Colored Plates. Physicians' and Surgeons' Book Company, New York, 1924.

This book of more than 700 pages presents an exhaustive study of the subject indicated in the title page. The wide range of syphilitic relationship in disease has brought the study of syphilis into every day consideration and the failure to investigate the

possibilities of such infection is liable to bring failure and disappointment. The diagnosis of syphilis and syphilitic complications are not always easy, hence the importance of careful study and proper equipment of the general practitioner, who must, in the nature of his practice, come in contact with these cases. The specialist in genitourinary diseases and syphilis has his organized clinic, but it is quite different with the physician or surgeon in general practice, and this class will find the book of particular value. Of especial value are the illustrations, which will help in the diagnosis and treatment.

The first chapters relate to the condition of the urine, cystoscopy and pyelography as a means of diagnosis. This is followed by a study of gonorrhea, inflammation of the prostate and cystitis, stricture of the urethra and hypertrophy of prostate are subjects of great importance. Hypertrophy of the prostate is carefully studied and its treatment exhaustively and judiciously considered. The failure to adopt the proper course of preliminary treatment and the appropriate operative technic, reveals itself in the final results. There is no operation in surgery that leads to more distressing results than an improperly performed prostatectomy. This fact the author appreciates, as is shown in the thorough discussion of the subject. The generally accepted methods of operation are described, but the important consideration is the method best suited to the case. We are particularly impressed in going over the section on prostatectomy with the helpful manner in which the author points out the safest and most successful course to be employed in the case under consideration.

An important chapter is devoted to suppuration of the Kidney and its Pelvis and a chapter on Renal Calculus. So much depends on an accurate diagnosis and proper treatment that the author is justified in devoting considerable space to these conditions.

Chapters are devoted to cancer of the prostate and to tuberculosis of the kidney. The usual operations on the kidney are discussed. The last section of the book is devoted to syphilis and the methods of diagnosis and treatment. There are numerous other conditions of the genitourinary system presented that we have not referred to.

We may observe one important fact in relation to genitourinary diseases and syphilis that cannot be too much emphasized, and that is, the results in this department of medicine bear a close relationship to the efficiency of treatment. The practitioner should prepare himself for the work or refer it to those who will do so.

INTERNATIONAL CLINICS

A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles in Medicine and Surgery. Volume 3, 33 Series. Edited by Henry W. Cattell, M.D., Philadelphia. J. B. Lippincott Company.

The first contribution to this volume is the second paper by Professor Leenwen of Leiden, Holland, on

the Theraphy of Allergic Diseases, the first appearing in the June number, 1923. There is an interesting paper under the title, A Biological Consideration of Abdominal Hernia, by G. Paul Le Roque, M.D., Richmond, Virginia.

James J. Walsh, M.D., New York, presents a helpful paper on the Therapeutics of Pain. We are often consulted by patients who present, as the chief symptom, pain, and upon the relief of which our reputation depends. Dr. Walsh offers useful suggestions upon the subject.

Some interesting cases are presented from the Geneva Clinic in Medicine.

Dr. Daniel Eisendrath considers the Diagnosis of Renal Tuberculosis.

We thus offer a few of the titles presented in this volume. It will be seen that the presentation is of every day clinical work, which it is the purpose of this series of publications to offer to the profession.

A TEXT-BOOK OF ANATOMY AND PHYSIOLOGY

By Jesse F. Williams, M.D., Professor of Physical Education Teachers College, Columbia University, New York City; 12 Mo. of 523 Pages, with 369 Illustrations. W. B. Saunders Company, 1923; Cloth, \$3.00.

This book is intended primarily for students in schools of nursing, normal schools and colleges. The text is concise, with many illustrations. The general interest of lay people in the general facts in medicine is such that a fundamental knowledge in anatomy is essential, and this book is opportune so far as the general public is concerned.

Students in colleges who intend teaching and students in nursing schools will find this book is one they need. It fits well the needs of students in art courses, in obtaining a knowledge of human anatomy; the illustrations are well adapted to such needs. In association with anatomy is the functions of the body or physiology.

The book is very attractive in its make up and the text will be easy to follow.

NURSING AND NURSING EDUCATION IN THE UNITED STATES

Report of the Committee for the Study of Nursing Education and a Report of a Survey by Josephine Goldmark, Secretary. The MacMillan Company, New York, 1923.

This important work is the outgrowth of a conference of persons interested in the development of public health nursing in the United States at the invitation of the Rockefeller Foundation. About fifty persons attended the conference, physicians, representatives of public health agencies and public health organizations, leaders in nursing education, hospital administrators and other persons prominent in public health work. There was substantial agreement that the usual three years hospital training was not, in and by itself, satisfactory for preparing public health nurses.

The result of this conference was an elaborate report by the committee which is published in the book before us. As the volume consists of 585 pages, it will be possible to refer to only a few of the findings and recommendations. The subject is developed under appropriate headings, a few of which we will note. The first is: The Role of the Nurse in Public Health. Essential Qualifications of the Public Health Nurse. The Need for Nursing of High Grade in Hospital Supervision and Nursing Education. Under these heads may be found the many questions relating to nursing and nurse education in the United States.

Any one seeking information on these subjects will find it in this volume.

A TEXT-BOOK OF CHEMISTRY FOR NURSES

By Fredus N. Peters, A.M., Ph.D.; Formerly Professor of Chemistry and Director of Laboratories, Kansas City College of Pharmacy. Author of Several Books on Chemistry, Etc.; Illustrated; Second Edition. C. V. Mosby & Company, 1923. Price \$2.50.

The importance of chemistry to medicine has always been recognized, and of late years the relationship has grown immensely. At the present time very extended courses in chemistry are demanded of the student in medicine and as the trained nurse is closely allied to the physician, she likewise must have a knowledge of chemistry. To meet the needs of the nurse, many books are now appearing. The extent of the work outlined is largely dependent on the author's conception of how much and the kind of chemistry the trained nurse should have. Professor Peters, after many years of teaching chemistry in several important schools, has written a book which appears to meet the requirements of a liberally trained nurse.

THE MAINTENANCE AND OPERATION OF THE PANAMA CANAL

By Jay J. Morrow, Governor, The Panama Canal. A Lecture Delivered before the New York Section American Society of Civil Engineers in New York City January 17, 1923.

This interesting pamphlet of forty-four pages gives an account of the operation of the Canal. The administration includes 6,000 American civilians, 10,000 American soldiers and sailors, and 16,000 natives or West Indians.

In this pamphlet are numerous cuts and maps and in it may be found a brief account of the equipment and operation of the locks.

VENEREAL DISEASE INFORMATION ISSUED BY THE UNITED STATES PUBLIC HEALTH SERVICE FOR USE IN ITS CO-OPERATIVE WORK WITH THE STATE HEALTH DEPARTMENTS.

Government Printing Office, Washington, D. C., 1923.

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CERTAIN MEDICAL AND SURGICAL ASPECTS OF DISEASE OF THE BILIARY APPARATUS*

WILLIAM J. MAYO, M.D., Rochester, Minnesota

The modern doctrine of focal infection, while it has achieved a permanent place in medical literature, has not yet become crystallized, and many aspects of the subject are still under discussion. We are ready to accept the hypothesis that the entrance to the alimentary tract, in the nature of things, harbors pathogenic bacteria against which the individual is not always adequately protected, but unfortunately, we do not always know how adequately to protect him. While our hopes for the cure of diseases that are the result of focal infection have not been fully realized, we have at least justified the doctrine of prevention. The teeth, tonsils, and other areas of chronic focal infection are now regarded as matters of public as well as of private health.

Perhaps the most serious reason for failure to relieve many conditions having their origin in focal infection is that while the original focus may be removed, the secondary infections, that have gained a foothold elsewhere in the body as a result of the primary lesion, continue their manifestations either through chronic bacterial infections, or, possibly, bacterial protein reactions. It is hoped that further investigations will develop measures to insure more complete immunity.

THE RELATION OF INFECTIONS OF THE GALL- BLADDER TO CARDIAC DISEASE

We are just beginning to realize that, in concealed situations in the body, there are areas of possible foci of infection; of these, the gall-bladder stands out distinctly, the following case being a striking example. About twenty years ago a woman, with pronounced cardiac incompetency of the mitral type, came under my care. She had cardiac dyspnea and considerable edema,

and was confined to bed. Besides the cardiovascular manifestations there was definite infection of the gall-bladder, and a history of severe and prolonged gall-stone colics. The patient was a poor surgical risk and operation was not considered advisable, but with proper management it was expected that the cardiac incompetency might be relieved. The patient improved markedly under digitalis, but when she was about ready to go home a sudden, severe attack of gall-stone colic ushered in a pronounced exacerbation of the cardiac symptoms. The history was now properly developed. The first cardiac attack had been associated directly with gall-stone colic, and thereafter each recurrence of acute gall-bladder infection was followed by an increase in the cardiac damage, the condition resembling that with which we had become familiar in connection with acute relapsing tonsillitis, initiating the cardiac complications of so-called inflammatory rheumatism. When the patient had recovered sufficiently, the gall-bladder, which contained stones, was removed. Her recovery was uneventful and she lived for many years in good health. There were no further exacerbations of the heart disease, although the evidences of permanent cardiac crippling remained. Following this experience, I operated on the gall-bladder, in spite of cardiac symptoms, in a number of instances. The results have not always been as striking as in this case, but in the main have been good.

It must be recognized that, without sufficient evidence of disease of the gall-bladder, great abuses would follow the reckless assumption that a given heart lesion may have its origin in the gall-bladder. Operations on the gall-bladder in such cases should not be performed, unless the clinical signs and symptoms warrant operation in the absence of cardiac symptoms, but we should not allow ourselves to be deterred from a necessary operation on the gall-bladder because of such a heart complication.

Cardiology has become so highly specialized that one almost fears to tread on this sacred ground, but we cannot all be cardiologists or have at hand a competent adviser in cardiac cases. I

*Read before the Inter-State Assembly of the Tri-State District Medical Association, October 29 to November 1, 1923, Des Moines, Iowa.

have found a classification of cardiac syndromes, based on Richard Cabot's useful, and compatible with clinical experience.

The first type of heart disease begins usually in the adolescent period, often follows so-called inflammatory rheumatism and tonsillitis, and is seen in the course of chorea. Its incidence is greater in females; it affects the right side of the heart, and the mitral orifice and valves, and is easily detected by the harsh murmurs, the heart's heaving impulse, and its increased size. Because the heart is noisy, many practitioners advise against any operation, no matter how necessary. In this type of case I have never known death to occur that could be truly charged to surgical procedure, provided the heart was well compensated. It is this particular variety of heart lesion which I have noticed a number of times in connection with gall-stone disease.

The second type might be called cardiorenal; the entire vascular system is involved, as evidenced by high blood-pressure, cardiac hypertrophy, and chronic vascular nephritis (Bright's disease Number 2). This is more common in middle-aged men. I have not seen it directly connected with gall-stone infections.

The third type is the syphilitic, again more common in middle-aged men; it involves the base of the heart and the aortic valves, and develops aneurysms, and aortitis limited to the arch. The history, the development of the Wassermann reaction, and the x-ray afford valuable diagnostic information. Angina pectoris often develops as a later manifestation of the aortitis. Gall-bladder disease is at least of average incidence in the syphilitic patient, and acute exacerbations of infection may usher in an attack of angina. The removal of gall-stones in the syphilitic patient may be indicated in spite of the angina, and the relief afforded may be great.

In the fourth type, disease of the coronary vessels causing anginal attacks is sometimes complicated by disease of the gall-bladder, and this complication may initiate changes in the coronary vessels. I have followed several such cases to post-mortem, and the only pathologic changes to be found were in the coronary vessels and gall-bladder. Willius, in a recent study of eighty-seven cases of heart disease coming to necropsy in the Clinic, found that coronary sclerosis and disease of the gall-bladder were associated in twenty-one (24 per cent).

The fifth type of heart disease which may possibly be related to focal infection is more vascular than cardiac. Essential hypertension is common and due to many causes. In women of overweight especially, gall-stones are common,

and after removal of the diseased gall-bladder, the general condition often improves remarkably, the blood-pressure is lowered, and if a suitable regime is instituted to overcome the overweight, such improvement is maintained. I have operated on many patients suffering from hypertension from various causes, and if death has followed, I have never been able to trace a connection between the death and the hypertension. There is still much to be learned with regard to the metabolism of fats. In the average case, cholesterol, which is a lipoid stored in fat, is one of the chief constituents of gall-stones and may have some relation to adiposity. It has been shown that in pregnant women, the cholesterol blood content is twice the normal. During or after pregnancy the first manifestations of gall-stones frequently develop. Moynihan carefully observed a series of cases of gall-stone disease, and found that while the normal cholesterol content is 0.133 to 0.162 per cent, in gall-stone disease it is, on the average, double, confirming the observations of Aschoff and Rothchild.

The sixth type of cardiac disease is the toxic, seen often in cases of exophthalmic goiter, but not sufficiently often in gall-stone disease to permit the belief that it commonly originates in infections of the gall-bladder. Willius reports that in 1918, in 290 surgical cases complicated by heart disease, there were three cardiac deaths (0.1 per cent). The cardiac disease included the more serious types, such as auricular fibrillation, auricular flutter, complete heart block, delayed auriculoventricular conduction, aborization block, mitral stenosis, and aortic disease.

THE RELATION OF LESIONS OF THE GALL-BLADDER TO CHRONIC ARTHRITIS

The arthritides can be classified rather simply. Barker places first the arthritis of acute rheumatism, which often damages the heart, but never leaves a permanent residue in the joints in the nature of chronic arthritis. This type is most common in young women. The second is the so-called rheumatoid arthritis of the atrophic type, in which the smaller joints are affected first, with claw-like contracture; there is gradual progression to the larger joints, until the crippling is complete. The cause apparently is a change in metabolism, and not a direct infection. The third are the hypertrophic types of rheumatoid arthritis which more commonly involve the large joints and progress to the smaller, but sometimes remain confined to the phalangeal joints or to one large joint, such as the hip, following traumatism. While there is no direct evidence connecting the manifestation with the gall-bladder, it

seems possible that its causative agent, direct or indirect, may be some form of unidentified microorganism.

It should not be forgotten that manifestations in joints may occur with blood dyscrasias, and as a result of neurologic diseases. When there is sudden, purplish enlargement of a joint from distention with blood, the history of the case should be developed, and the blood examined for hemophilia. Angioneurotic edema may be confused with arthritis, as may also the joint manifestations of chronic hysteria, and the Charcot's joint of tabes which, in the rare case, is painful. The specific joint infections due to the bacilli of tuberculosis are recognized as white swelling. Syphilis should be thought of in chronic arthritis, especially in those suffering from congenital syphilis.

All the remaining forms of arthritis may be regarded as generally having origin in a focal infection of which the infected gall-bladder may act as a focus, and this is true of the various forms of the muscular rheumatism. Rosenow has demonstrated many pertinent facts in this connection. Remarkable relief occasionally follows operation for gall-stones in obscure types of painful affections of the joints and muscles, which are more or less without physical evidences.

THE RELATION OF ACUTE INFECTIONS OF THE GALL-BLADDER TO ACUTE APPENDICITIS

Of extreme importance are the coincident acute infections of the gall-bladder and the appendix, as in the following case:

About fifteen years ago a woman, five months pregnant with her fourth child, was brought into the hospital with perforation of the gall-bladder and spreading peritonitis, after seventy-two hours of acute illness. I opened the abdomen, and evacuated foul pus of fecal odor, and gall-stones in the vicinity of the gall-bladder, which had ruptured into the free peritoneal cavity at the necrotic fundus. I rapidly removed the stones and septic material, introduced a drain into the gall-bladder at the site of the perforation, and placed considerable iodoform gauze in the infected area. For a few hours the patient was relieved of symptoms, which shortly returned and continued unabated until death. Post-mortem examination revealed coincident perforation of the appendix, and progressive peritonitis, to be the cause of death. The unfortunate death of this mother and child emphasizes certain pertinent facts: (1) the history of gall-stone disease, with numerous attacks; (2) in the final attack the pain was first in the region of the appendix, and (3) the pus coming from the gall-bladder was of exactly the

type found in abscesses of appendiceal origin. That this patient with a stone-infested gall-bladder was overwhelmed with an acute infection from the appendix, which was carried through the liver, and that both gall-bladder and appendix had perforated simultaneously, cannot be doubted. In the presence of an acute infection of the gall-bladder from colon bacteria, the appendix should be examined. In a number of cases of acute infections of the gall-bladder I have coincidentally removed an appendix acutely infected, which would presumably have caused death, had it remained.

THE RELATION OF INFECTIONS OF THE GALL-BLADDER TO PANCREATITIS

Our knowledge of pancreatitis is very largely owing to the pioneer work of the late Reginald Fitz, whose discovery of the relation of the appendix to acute infections of the abdomen, and whose investigations of intestinal diverticula as a cause of peritonitis, and of acute pancreatitis as a cause of fat necrosis, give him a permanent place in medical history. The symptoms of acute pancreatitis are classical. The patient, sometimes an elderly, adipose man, has a sudden seizure of extreme pain in the upper abdomen, vomiting, pallor, anxious expression, and shock. Tympanitis promptly develops, and a condition at first appearing to be acute obstruction high in the intestinal tract. Enemas produce evacuations, and gas is expelled without relief. In the milder types of acute pancreatitis, operation discloses a greatly swollen, edematous pancreas, with fat necrosis due to the escape of lipase, a fat ferment which causes saponification of the fat, or a moderate hemorrhagic pancreatitis, caused by the escape of proteid ferments, of which trypsin is the best understood and which affects especially the blood-vessels causing hemorrhages, or both hemorrhages and fat necrosis. In malignant types, death ensues in from twenty-four to seventy-two hours. Post-mortem examination discloses generalized fat necrosis with hemorrhagic infarctions into the pancreas, and often necrosis of the substance of the gland. When our knowledge of pathologic conditions was derived entirely from the post-mortem room, it concerned individuals who had died from a certain disease and led to an exaggerated idea of the fatality of that particular disease. For instance, fat necrosis does not necessarily end fatally, and in the so-called hemorrhagic-apoplexy type of acute pancreatitis, a considerable deposit of encapsulated blood in and around the pancreas may be found, which later can be opened and evacuated, with recovery of the patient.

In this connection an experience of long ago illustrates a pertinent fact; a doctor of nearly three-score and ten years, a friend of my father, became violently ill, and was brought to the hospital about two weeks after the initiation of severe, upper abdominal symptoms. This illness had been preceded by several attacks of gall-stone colic. Evidence of a localized infection in the region of the gall-bladder was marked, and, as soon as the patient had rallied somewhat, an abdominal incision was made. The pancreas was found to be greatly enlarged and soft. The gall-bladder was full of stones, and there was extensive fat necrosis with considerable serous, peritoneal exudate. The stones were removed and the gall-bladder was drained, and the patient made an unexpectedly good recovery. I have since seen many patients with the subacute type of pancreatitis and fat necrosis operated on while in the course of recovery, who undoubtedly would have recovered from this particular attack without operation.

In some instances, secondary pyogenic infections cause abscesses, and even necrosis of large areas of the pancreas. A considerable percentage of these patients are successfully operated on, and recover permanently; at least so far as I have observed, they do not show evidence of pancreatic insufficiency later. Pancreatitis is usually associated with cholecystitis and stones; the stones should be removed, and the gall-bladder drained.

In the chronic types of pancreatitis the head of the pancreas is usually enlarged and thickened, sometimes feeling like the handle of a pistol, or, the whole pancreas may be involved, feeling like half of an ear of field corn. It has been my experience that patients with chronic pancreatitis without jaundice recover after the removal of the gall-stones and cholecystostomy. At least they have no further symptoms to indicate failure of either the internal or external secretions of the pancreas. In 60 per cent of subjects, the common duct passes through the head of the pancreas, a condition which makes jaundice probable. In the other 40 per cent, the duct passes behind the pancreas and is not compressed by pancreatitis. If, associated with chronic pancreatitis, there is jaundice and other evidence of obstruction of the biliary tract, the gall-bladder should not be removed, as it may be useful later in case cholecystoduodenostomy or cholecystogastrostomy is necessary for permanent biliary drainage. In some cases without jaundice, however, cholecystectomy is necessary to cure relapsing cholecystitis causing recurring exacerbations of a chronic pancreatitis without biliary obstruction. Some years ago a Jewish rabbi came to the Clinic, giving a

history of peculiar attacks in the upper abdomen for which cholecystostomy had been performed three times for the relief of subjective symptoms. Since nothing could be found to justify further operation I advised against it, in spite of the insistence of the patient who had come a long distance, hoping to be relieved. He remained in town and at frequent intervals had manifestations of severe pain, cried out, was hysterical, and at night frequently sent for a member of the staff to relieve him. Finally I was induced to perform the fourth operation, and found typical, chronic pancreatitis and an adherent, infected gall-bladder. Inasmuch as the patient had never been jaundiced I removed the gall-bladder. He recovered perfectly, and every year since has never failed to send me an anniversary letter telling me of his continued good health. Reflection on this case brought out a sequence of events which a more careful history might readily have shown in advance. Each time cholecystostomy was performed the patient was relieved so long as the gall-bladder continued to drain to the outside. After one operation he had insisted on keeping the drainage tube in place for two months. The gall-bladder contained bacteria which, becoming acclimated to the pancreas, had produced recurrent attacks of pancreatitis.

THE RELATION OF INFECTIONS OF THE GALL-BLADDER TO CIRRHOSIS OF THE LIVER

Adami described so-called obstructive biliary cirrhosis as the result of infections usually originating in infections of the gall-bladder. Often there are antecedent stones which have passed from the gall-bladder into and become lodged in the common duct, causing obstruction which lead to dilatation of the smaller biliary ducts, and infections extending even into the finest ramifications, which sometimes result ultimately in the formation of pigment stones in the biliary ducts. In biliary cirrhosis there are deposits of connective tissue around the small biliary ducts, eventually causing contraction and interference with bile drainage, which produces chronic jaundice, an enlarged liver, and a train of symptoms that lead to death. The direct relationship of infections of the gall-bladder to biliary cirrhosis is easily established. There are two types of cirrhosis of the liver; the biliary, briefly referred to, and the portal, in which the infection is carried to the liver through the portal circulation and deposits connective tissue around the smaller portal vessels, causing interference with hepatic circulation, as shown in the typical portal cirrhosis of Laennec. It should be remembered, however, that the liver in portal cirrhosis is not always

atrophic. It may be enlarged, due to the deposits of fat with the connective tissue. Biliary cirrhosis is easily identified by the early persistent jaundice, and portal cirrhosis by early and persistent gastrointestinal hemorrhages and ascites.

Gall-stone disease is the most common cause of biliary cirrhosis, but there is no evidence to show that the gall-bladder is a common cause of portal cirrhosis. Not uncommon, however, is a mixed type of cirrhosis in biliary infections, that is, general biliary cirrhosis with localized areas of portal cirrhosis. In biliary cirrhosis, even in late cases, prolonged drainage of bile to the surface by cholecystostomy, and removal of gall-stones if they are present, may prove beneficial. I have seen good results following such drainage, at least the patients suffering from obstructive biliary cirrhosis have been able to return to work and have enjoyed fairly good health, although the greater number still have sufficient interference with circulation of bile in the smaller ducts of the liver to cause the continuance of a certain amount of jaundice.

THE MYSTERIES OF THE ABDOMEN*

JOHN B. DEAVER, M.D., Philadelphia, Penn.

It is with a keen sense of pleasure and gratification that I respond to your flattering invitation to be among you at this time. Whatever of value I may have to contribute in a professional way, is, I am sure, more than offset by the advantage of the feeling of brotherhood and comradeship which gatherings of the Tri-State Medical Association inspire. For after all it is by coming together, even for a short time, in this way that progress is assured, for there is no doubt that the spoken word and the personal contact are much more forceful than volumes of the written word.

In choosing the title, *The Mysteries of the Abdomen*, I have not come as a magician who seeks to mystify, but rather as one who aims to throw light into dark places and seeks to dispel mystery and reveal truth. Those of us who have lived three score years or more can remember the time when the abdomen and its contents were forbidden territory to the surgeon. It was opened on rare occasions, in emergencies, and in the post-mortem chamber where but little light was shed upon the physiology and pathologic physiology of

the organs within. With the dawn of the Listerian era abdominal surgery received its first impetus.

I would bid you then to take a journey with me down the oesophagus into the gastric lake, through the pyloric lock into the duodenum, where we may take a side trip through the common duct into the biliary region; thence downward we will sail past the duodeno-jejunal bend into the tortuous channel of the small gut until we come to the head waters of the colon, at the ileocecal dam. There we must visit that most famous point along the route, the vermiform appendix, for to miss this would be like touring France and missing Paris. The narrow, rapid running stream now becomes a wide sluggish river and we slowly drift along, rounding the hepatic and splenic bends, until we reach the narrows of the rectum to emerge through the sphincter ani.

It will be impossible to discuss all the sights we pass in this journey because of lack of time and voice, so I will confine my remarks to the points of greatest interest.

The medical profession has always been cursed by conservatism. We have been loathe to give up inherited diagnoses. It is for this reason that we have clung so long to "dyspepsia" and "indigestion" as clinical entities. They belong to the nomenclature of the physician who does not have the opportunity of viewing the living pathology of the abdomen at the elbow of the surgeon, and yet today the history cards in the medical dispensaries are filled with the diagnosis of "gastric neurosis," "gastric indigestion" and "gastritis." To me this is not a mystery of the abdomen—it is a mystery of medicine. Properly studied, instead of receiving the usual prescription of nux, soda and gentian at each visit, a considerable number of these patients would be reclassified as chronic appendicitis, chronic gastric or duodenal ulcer, chronic cholecystitis, chronic pancreatitis. Dr. J. Lichty, in a study of 1500 patients with gastrointestinal disorders, found that 600 or 40 per cent at operation had disease of the gall-bladder or of the appendix. The mystery deepens when we see even our recent graduates allowing cases of chronic peptic ulcer to go on to perforation. There are undoubtedly some cases of functional disturbances of digestion, the result of improper diet or mode of living, but it should not take months or even years to bring about a restoration to health in these cases when the cause has been removed. The stomach is the megaphone of the entire gastrointestinal tract. Any disorder of the gall-bladder, the pancreas, the bowel or the appendix may reflexly cause pylorospasm so that the major lesion may appear to be in the stomach. The

*Read before the Inter-State Assembly of the Tri-State District Medical Association, October 29 to November 1, 1923, Des Moines, Iowa.

danger of haphazard diagnosis of "dyspepsia" or "indigestion" is apparent.

When a diagnosis of chronic peptic ulcer is made, the question of treatment immediately presents itself. When we consider the length of time it takes to heal a chronic leg ulcer, with the patient absolutely at rest, we cannot wonder that it is well nigh impossible and highly improbable that an ulcer of the stomach or duodenum can be healed by medical treatment, for here absolute anatomic and physiologic rest is impossible to attain. Just as it is frequently necessary to excise the callous base of a leg ulcer, so, too, I believe that the only treatment for a chronic ulcer of the stomach or duodenum is removal when possible. In this way not only is the lesion removed, but its dreaded complications of hemorrhage, perforation and carcinomatous degeneration are forestalled. Occasionally excision of the ulcer is impossible because of the surgical difficulties which would be encountered, but even then a gastro-enterostomy will serve three purposes: first, physiologic alkalization of the stomach contents; secondly, partial physiologic rest for the ulcer, and thirdly, drainage. Fortunately the cases which (as a rule) present difficulties and make surgical removal sometimes impossible, are those in which the ulcer is in the duodenum, and nature has decreed that carcinoma of the duodenum is a rare disease.

With the operations for peptic ulcer so standardized that the mortality is reduced to a minimum in the hands of any competent surgeon, it is a mystery to me why the internist so often feels that the treatment of peptic ulcer rightfully falls in his domain. Had the internist believed this three decades ago, before the modern achievements of clinical research, I would have been the first to grant his claim, but the safety which aseptic surgery has brought to our work and the all-too-frequent disasters which we have seen as the result of prolonged medical treatment have strengthened me as a surgeon in my belief that chronic gastric and duodenal ulcers are surgical diseases. The role of the internist in this condition in the future should be that of a diagnostician and guardian of the after-care of the patient. If I could transplant those of you who are skeptics, to my clinic in Philadelphia could show you any day the mischief which occurs in the upper abdomen from association with bad company and the uselessness of medical treatment, except to satisfy the patient's mind. Scarcely a week passes but that I see ulcers which have perforated into the pancreas, the free peritoneal cavity, or even into the liver; or, if not perforating, have formed extensive adhesions which distort the motility of the

stomach or duodenum. And then you ask why we do not restore the patient to perfect health. Let me ask you to question yourselves as to who is the "High Lord Executioner" in these cases.

If you will permit me I would like to say a few words about the appendix before discussing the biliary tract. I am well aware of the fact that I have been called a crank on appendicitis, and if when I am taken to my reward, I am known for nothing else, I shall be satisfied to have as my epitaph—"He fought a good fight—His life was a continuous war on the vermiform appendix." There has begun recently a crusade against the removal of the chronically diseased appendix. It is true that the papers dealing with this subject have spoken chiefly of the indiscriminate removal of the appendix, but how can anyone be sure of the pathology until mystery is dispelled by the aseptic scalpel. It is well known that a diseased appendix may mimic the symptoms of lesions of many other abdominal viscera. Irritation of the appendix may cause hypertonus of the stomach and spasm of the pylorus, or failure to relax on the part of the pylorus or the ileocecal sphincter. Thus it may simulate peptic ulcer. When situated in the pelvis it may inhibit defecation and in the female simulate pelvic disease. I have seen a pelvic appendix cause extreme dysmenorrhea and salpingitis. More frequently than it is given credit for it is the cause of extra-uterine pregnancy. Dilatation of the cervical os will avail the patient little if the fimbriated opening of the tube is closed by crippling adhesions. And just as an ureteral stone may be mistaken for acute appendicitis, so too a chronic appendix giving symptoms of increased frequency or inhibition of micturition may be wrongly diagnosed as a lesion of the urinary tract. Sir Humphrey Rolleston has said that, "chronic irritation of the appendix may be responsible for cardiac irregularities." This information has been gained by a wise man standing at the elbow of the surgeon. Frequently when I remove a chronically diseased appendix, the general practitioner will say that he sees little evidence of disease, but the change that can be seen by the naked eye frequently fails to correspond with the prominent symptoms which disappear after its removal. We are only on the threshold of our knowledge as to the complementary action of one organ upon another—and when I am accused of removing normal appendices, my invariable answer is that an empty house is better than a questionable or perhaps bad tenant. (Those of you who remove tonsils and are similarly accused, please take notice.)

Every case of appendicitis which is allowed to go on to suppuration is an indictment of the phy-

sician. Perhaps your general practitioners here are better trained, but in Philadelphia, a medical center of the world, the gangrenous and perforated appendix are frequent sights in every hospital. Murphy, in 1915, reported the average hospital mortality of appendicitis cases of all classes, "as just a little over 10 per cent," and he appended to this the question, "is this not a solar plexus blow to our conceit?" So, if you think it is time to stop talking about appendicitis you must realize that what we need is more talking about it, until the surgeon of the future in speaking on perforation and gangrene will have to go to the Pathological Museum to find his specimens. There is no legitimate excuse for a high mortality in appendicitis. The majority of patients do not die because they have refused operation, but because of procrastination on the part of the attending physician. The initial symptoms are usually clear cut, but they are no index as to the subsequent course or complications. Therefore, I say, early diagnosis and early operation mean early cure. There is more reason why we should scorn the family doctor, who, unmindful of his responsibility and oblivious of his training defers operative treatment until too late, than the chiropractor or osteopath who in his inexperience fails to diagnose these cases. On several occasions I have taken it upon myself to censure such calcitrant members of the profession and they usually retort, "if you are a good surgeon, you will get them well." How can a physician who claims to be conscientious impose this unnecessary burden upon the surgeon, to say nothing of the risk to the patient?

It is true that an acute appendicitis may subside, but recently in compiling the end results of 500 cases of chronic appendicitis operated upon, Dr. Ravdin and myself found that 145 were operated upon during an acute exacerbation of the disease. Many of these had gone on to perforation and peritonitis. Of those operated upon during the quiescent period there was one death (.27%), while of the 145 operated on during an acute exacerbation there were four deaths (2.7%). Who would knowingly dare to impose a mortality ten times as great as necessary upon his patient?

Experience has proved that one attack predisposes to another, for of the appendix it may be said "Once diseased, always diseased," and any attack may prove fatal, and yet how often the patient having recovered from an attack is advised to defer operation until another attack. None of you would carry around a stick of dynamite, but this is what you allow your patients to do when

you allow them to carry around a diseased appendix.

Not only is the sufferer from appendicitis subjected to the hazard of an acute abdominal catastrophe, but through lymphatic and circulatory connections he invites gastric, duodenal, biliary and pancreatic disease. When I first stated that biliary disease was often the result of a previous appendicitis and that chronic pancreatitis was a sequel of biliary disease, I was ridiculed. Sweet, Graham, Pfeiffer and myself have now shown the evidence for this statement. Graham's researches which prove that hepatitis is a frequent precursor of cholecystitis are among the most brilliant contributions to the surgery of the biliary tract. There are several apparent mysteries in this region which need clarification. The first is that chronic cholecystitis may reflexly cause the same dyspeptic symptoms that are associated with ulcer and with appendicitis. This may be mechanical, reflex, toxic or infective, we do not know. It may be one or the other or a combination of the two. But the greatest mystery of the gall-bladder is the general attitude toward the presence of stones. Patients have been trained to believe that where there are no stones there is no disease and the practitioner does not ask, "is the gall-bladder wall abnormal?" or "is the bile pathologic?" but his invariable question is, "how many stones are present?" A chronically diseased gall-bladder without stones may give the same symptom complex as one with stones. The stones are a by-product, not a cause of the diseased mucous membrane. There is no necessity of allowing a roentgenogram or the all-too-uncertain evidence of duodenal drainage, to be the indication for operative interference. Chronic pancreatitis results from chronic cholecystitis and the resulting pericholecystic adhesions embarrass the movements of the stomach and duodenum. Chronic cholecystitis, as Riesman, Babcock and others have pointed out, is a frequent cause of myocarditis, and toxemia from absorption of the contents of a diseased gall-bladder is of common occurrence. Chronic colitis, diabetes, pyelitis and pyelonephritis may also be due to an extension of the infection. I quote this from no less a medical authority than Sir Humphrey Rolleston. These then are the legacies of neglected cholecystitis. They are no longer mysteries but they are the realities of clinical research.

A word as to jaundice. It occasionally accompanies cholecystitis but it is more often the expression of a stone in the common duct or of a chronic pancreatitis. Its presence signifies added dangers and necessitates more extensive surgical procedures since the common duct must be ex-

plored and drained; and, one of the risks of more extensive surgery, is the danger of hemorrhage.

In many hundreds of operations upon jaundiced patients, I have come to recognize two varieties of jaundice; the painful and the painless. The causes of painful jaundice are: (1) stone in the common duct and stone in the cystic duct compressing the common at the junction of the cystis with the common duct; (2) inflammatory obstruction as in choledochitis; (3) cholecystitis with cholangitis; (4) sub-acute pancreatitis involving the head of the pancreas and associated with inflammation of the biliary passages. This last may cause a syndrome very similar to that of a common duct stone. In fact it may so closely simulate it that the diagnosis can only be made by operation. The causes of painless jaundice are: (1) simple catarrh of the ducts (infectious jaundice); (2) carcinoma of the head of the pancreas, the biliary passages or the gall-bladder; (3) chronic pancreatitis or pancreatic lymphangitis; (4) obstruction of the terminal common duct by exudate of a duodenal ulcer; (5) stricture of the orifice of the papilla of Vater following a choledochitis, which can only be corrected by gradual dilatation through an opening in the common duct; (6) the splenomegalies, ictero-anemia and hypertrophic cirrhosis of the liver, and lastly, toxins, such as arsphenamine, phosphorus, etc., and nervous shock.

The cause of jaundice after operation upon the biliary passages is often a mystery and can only be definitely determined by secondary operation. Those of us who are constantly delving into the mysteries of the upper right quadrant know this only too well. The most common cause is the presence of a stone or stones left behind at the first operation; the presence of numerous tiny stones, often not larger than grains of sand, filling the common duct; stricture of the common duct the result of injury to the duct at the time of a previous cholecystectomy or stricture of the common duct which has been drained, or stricture following an inflammation of the duct.

Many of the mysteries can be cleared up only by operation. They are frequently the result of dilly-dallying with the original pathology. I hope I have made it clear to you that the pathology of the liver and its passages has few limitations. Does it not therefore behoove us to be on the alert when confronted with these cases? Do these mysteries not increase our responsibilities? These are entanglements to be avoided by prevention, if possible.

Chronic disease of the pancreas is the result of bad company. The lesion would be as rare as acute pancreatitis were it not for the neglected

treatment of chronic cholecystitis. Especially is it associated with calculous cholecystitis, although the etiologic factor is probably an extension of infection through the lymphatics rather than a calculous obstruction at the ampulla or an ascending infection through the pancreatic duct, as was formerly believed. Since the pancreas is so closely associated with the other viscera of the upper abdomen, chronic disease of the pancreas gives no symptoms that we can now isolate as originating in the organ, but the condition is found at operation. The occasional disastrous results after operation for long-standing gall-bladder disease may be due, as Whipple has shown, to pancreatic asthenia.

Acute pancreatitis, also often associated with biliary disease, is one of the most serious of the acute abdominal catastrophies and is too often wrongly diagnosed. Here the delay of an hour or two may cost the patient his life, but fortunately when it is wrongly diagnosed, it is apt to be confused with conditions also requiring immediate surgical interference, such as perforated ulcer, or acute intestinal obstruction, so that delay is not usual.

Just as the surgeon has learned to extend the field of his endeavors, so too, he must learn to restrict them. The day is past when oophorectomy is considered a cure-all. We have gone through the era of nephropexy, cholepexy and ileosigmoidostomy. Lane's excision of the colon which only a few years ago was heralded as a benefaction is now relegated to the surgical museum. The colon subserves a useful, physiologic function and is not to be lightly considered. It is true that cæcal stasis from inhibition of peristalsis or from entero-spasm, may be due to chronic appendicitis. This may be remedied by appendectomy, but the type of colonic stasis usually encountered is more frequently due to anatomic defects. This type of stasis resists, as a rule, surgical treatment, and the patient once operated upon comes back again and again for further surgical procedure. Just as the medical man must know his limitations so too the surgeon must realize his.

Only too frequently patients suffering from malignant growths in the hepatic or splenic flexures are treated for a long period for chronic constipation. Rarely are they subjected to x-ray examination until the lesion is palpable through the abdominal wall. Unfortunately, it is my experience that even the most expert x-ray artist does not always demonstrate a growth in the colon. He may, however, be able to demonstrate an enlargement of the colon proximal to the growth which should be very suggestive to the surgeon

in the differential diagnosis. As a rule these patients have been under the physician's care for a long period, and the fact that they complained of pain should have been a warning that the lesion was not that of every day constipation. Cure is impossible when the diagnosis is made from the history of diarrhoea, fetid discharge and hemorrhage. Another of the many mysteries.

Before we finish our journey I would like to say a few words about malignancy of the rectum and rectosigmoid. Were it not for the fact that metastasis is late, operative results in this condition would be much worse than they are at present, for the surgeon rarely sees it at an early stage. Only too frequently these cases are diagnosed as hemorrhoids, the mistake having been made because the physician was too gentle to make a thorough digital or proctoscopic examination. Here is a region where diagnosis could be made early by both touch and sight, but hemorrhage and alternating diarrhoea and constipation seem to be necessary before the lesion is suspected. I believe in the two-stage operation.

A colostomy gives the patient an opportunity to get rid of his toxins and at the same time allows a careful inspection for metastasis. I do not believe in the operations which attempt to preserve the sphincter and in low rectal growths, for the same principles which govern the treatment of carcinoma elsewhere, that is, wide excipation, are equally applicable here.

I hope in my travels today I have pointed out a few of the conditions which have baffled medical science in the past and are at times mysteries today. I come to you with a plea that if our services to humanity are to increase in their standards we must realize that medicine and surgery still have definite limitations. Neither of them is an exact science and realignments are constantly necessary. The best means of abolishing or assuaging the sufferings of mankind are to stop temporizing with medical procedures in surgical conditions, for procrastination and indifference have been the means of losing lives which might otherwise have been saved.

The Acme-International X-Ray Company of Chicago has opened a factory branch in Des Moines under the management of Mr. H. H. Pratt who is well known throughout the country as an electrical engineer and a pioneer in the x-ray field. The company will be pleased to cooperate with the ethical profession in any technical problems relating to x-ray or physio-therapy and invite the members of the Society to visit their new display rooms after June 1 in the new Equitable building suite 402. Temporary location No. 313 Securities building.

OUR KNOWLEDGE OF SPLEEN FUNCTION AND ITS RELATION TO SPLEEN SURGERY*

EDWIN R. SHANNON, M.D., F.A.C.S., Waterloo

Some years ago one of the members of our City Medical Society, in presenting a paper, stated that he chose a topic of which he knew nothing, so that there might be no conflict of opinion between him and the authors. I am reminded of that in presenting this topic, but am somewhat comforted by the thought that my lack of knowledge of the subject is quite common to the medical profession. Dr. Wm. J. Mayo has told the story of a senior medical student, up for examination, who, when asked to state the function of the spleen, said that he knew at one time but had forgotten; the professor replied: "Your forgetfulness is a great loss to science for you are perhaps the only one who ever knew."

At the outset I wish to declare that my clinical experience in splenectomy has been very moderate: the subject, however, is one which interests me greatly, and in looking back over the years, there comes to my mind many cases which, in the light of present knowledge and judgment, might have been cured, or at least life prolonged and made more comfortable by more radical work in this direction, so that if in some measure, increased interest and more painstaking clinical observation may be stimulated by this study, its highest purpose shall have been served.

In reviewing the literature of the subject of the spleen one is impressed with its volume and with the diligence and thoroughness with which most of the investigations have been pursued, particularly the experimental surgery; probably because this organ has always been more or less a mysterious stranger in the domain of physiology, and there is unusual fascination in its study.

The lines of inquiry and research have been broadly as follows:

1. Study of the effect of splenectomy in man and animals upon the general health, upon the blood, and ultimately upon the various tissues.
2. Study of the action of extracts of the spleen, when administered in various ways.
3. Study of the action of splenic extracts on various phases of artificial digestion in the laboratory.
4. Biochemical investigations upon the spleen, upon the metabolic activities of the body, and upon the several secretions.
5. Microscopical studies of the spleen and other organs in case of disease of the spleen, as well as

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in normal and splenectomized animals subjected to the action of various drugs.

6. Consideration of clinical cases in which the spleen was known to be diseased, any special phenomena being carefully observed in order to decide to what extent the spleen was to be held responsible for them.

Of all these methods, the study of splenectomized animals has been most widely followed.

Even when allowance is made for the ultimate differences which are shown by the cases of splenectomy in man, due to the varying reasons for the performance of the operation, there remain certain changes in the blood which agree with those found in splenectomized animals. There is a temporary anemia, gradually subsiding in approximately two months' time, and there is an increase in leucocytes, whose numbers return to normal very slowly and an increase of lymphocytes for about a year. When the extirpation has been for trauma, the general health of the patient may not be impaired. Study of the animals after death has shown proliferation of the endothelial cells in the lymph-glands and in the liver, and a reddening of the bone-marrow has been disclosed.

Moynihan propounds the following questions, most of which have not been answered in a generally satisfactory manner and which must be answered before our knowledge of spleen function is reasonably complete:

1. How much of the effect of splenectomy is due to the mere operation?
2. Does the spleen destroy red cells?
3. Does the spleen make a substance which weakens the red cells prior to their being engulfed by the phagocytes?
4. Does the spleen pass on the blood-pigment for conversion into bile-pigment?
5. Does the spleen haemolyse red cells by means of a ferment action?
6. Does the spleen secrete a substance capable of acting on the bone-marrow?
7. Is the spleen concerned with the activation of digestive ferments?

In answer to the last question, the work of Trampedach in experimental surgery on animals was thorough and painstaking and does not demonstrate anything more than temporary change in gastric secretion following splenectomy. Inlow, of the Mayo foundation, in an exhaustive review of the literature on the subject of the spleen and digestion together with elaborate and carefully conducted experiments on dogs concludes that, while the quantity of gastric juice is temporarily decreased, removal of the spleen in these experiments caused no noteworthy changes in

gastric secretion except a slight diminution in the quantity of gastric juice obtained, and is led to conclude from experimental inquiries and a critical review of the literature that a definite pepsinogenic function of the spleen has not been demonstrated and that the relation of the spleen to gastric secretion is probably merely vascular, the diminution in the amount of juice secreted after splenectomy being attributable to decreased gastric blood supply from injury to the gastro-splenic circulation.

The most uniformly successful results in splenectomy are those where early operation was performed because of traumatic rupture of the organ and for non-parasitic cystic conditions.

Dr. John F. Connors of New York reports six cases of the former, five of which were successful and patients still living, one of them at least seven years after the operation. He also reports a score or more of cases from other sources and concludes that:

1. Loss of the spleen has made no difference in the physical welfare of these patients.
2. The blood picture in these cases at last blood examination reveal but slight deviation from the normal.
3. Direct blood transfusion is a great help in the successful outcome of these operations.
4. The presence of accessory spleens must be considered an important factor.

In the matter of operation for rupture of spleen Grigsby summarizes as follows:

1. Traumatic rupture of the spleen occurs with greater frequency than generally supposed; many fatalities in unoperated cases are doubtless correctly attributable thereto.
2. The causative trauma may have been so slight as to produce no external evidence suggesting internal injury; yet the spleen may have been extensively damaged.
3. The primary symptoms of splenic rupture may not be indicative of serious internal damage; the signs are usually delayed for several hours and then they progressively increase in severity.
4. The pre-operative diagnosis of traumatic rupture of the spleen cannot always be perfected; but following the infliction of trauma in this region the surgeon should consider the possibility of splenic damage especially where there is delay in development of symptoms.
5. The treatment of ruptured spleen is distinctly and essentially surgical; medical management represents a delusion except in so far as it relates to the maintenance of physical resistance.
6. To an experienced surgeon the technic of splenectomy is not so difficult as was formerly taught; the operation should be undertaken without hesitation when demanded by the conditions present; and the same rule holds true as applicable to trau-

matic lesions of other abdominal viscera, i. e., "the earlier surgery is applied the greater the chance of a favorable outcome."

7. The prognosis in ruptured spleen depends almost entirely upon the time intervening between infliction of the trauma and the institution of surgical treatment; fatality usually follows late operation after vital resistance has been greatly reduced by continued hemorrhage.

8. Finally, the only hope of reducing the prevailing high mortality from splenectomy for traumatic rupture lies in earlier surgical treatment; there seems no legitimate reason why the immediate mortality from splenectomy should be greater than that following operations upon other abdominal viscera; the remote mortality cannot be even approximately estimated upon present knowledge.

Fowler of Brooklyn has collected reports of sixty cases of non-parasitic cysts of the spleen treated surgically, thirty by complete splenectomy with a death rate of three and five-tenths per cent.

We shall now deal with the more obscure diseases of this organ, for which splenectomy has been more or less successfully performed.

Elliott & Kanavel of Chicago report forty-eight cases of hemolytic-icterus, there were only two early deaths, one shortly after operation and one in six weeks. The forty-six patients who recovered are reported as cured, that is to say they were relieved of the jaundice and crises. It is true that in most cases the short time that has elapsed since operation and report, precluded final statements, yet among the reports are those of Sir Spencer Wells after twenty-seven years; Bland-Sutton's after ten years; Banti's after eleven years; Roth's after six years, while in nine cases the patients had been observed over six years after operation. The effect of the blood picture in all these cases was immediate. In seven cases reported in the first two weeks one gained from one to two million reds, the other cases gained from one to four million reds within six months. The jaundice decreased in most cases in the first few days, and in nearly all instances was absent at the end of two weeks, while the acholuric crises, with the attendant malaise, headache and fever, ceased entirely.

Gaucher's Disease—There are only about twenty-four cases that have found their way into the literature. The few cases where splenectomy was performed give surprisingly hopeful results.

Splenic Anemia—Banti's Disease—Two years ago Sweetser was able to collect from the literature forty-two cases attended by the true Banti's Syndrome i. e. cases showing enlarged spleen, cirrhosis of the liver with acites of an unknown etiology. In these forty-two cases there were

eleven comparatively early deaths or death rate of twenty-six and five-tenths per cent. Fisher since reports two cases operated upon, one of which is alive and apparently well one year after the operation.

Dr. Wm. J. Mayo was kind enough to give me a transcript of summary of paper to be read by him at the International Congress of Surgeons in London this coming July, and I will close by quoting his report and his comment.

"Two hundred ninety-six splenectomies were performed in the Mayo Clinic for various conditions. All deaths occurring in the hospital are classified as due to the operation, without regard to the length of time following operation, or to the cause of death."

Splenomegalias Due to Micro-Organisms—(1) Syphilis, chronic, eight splenectomies, one death in hospital, good results in seven; (2) tuberculosis, four splenectomies, one death in hospital, good results in three; (3) pyogenic organisms, fourteen splenectomies, four deaths in hospital, good results in six; no patient with septic endocarditis was cured; (4) splenic anemia, eighty-two splenectomies, nine deaths in hospital, good results in the great majority of the remainder. A number of the patients who made good recoveries had typical Banti's disease with advanced portal cirrhosis. Ten patients had gastric hemorrhages during the first six years following operation.

Hemolytic-Icterus—Forty-two splenectomies, one death in hospital; forty patients recovered perfectly. Sixty per cent of the patients had coincident gall-stones which required operation.

Pernicious Anemia—Fifty-seven splenectomies, three deaths in hospital, no deaths among the last forty patients prepared by blood transfusion. The improvement in all was much more prolonged than that following blood transfusion alone. Ten plus per cent of the patients were alive and able to work more than five years following splenectomy and 22 per cent more than three years following splenectomy. There were no cures, but the abnormal blood picture improved. Splenectomy in pernicious anemia is justified in only a limited number of carefully selected cases. Elderly patients with advanced conditions and aplastic types of the disease should not be considered for surgical treatment.

Polycythemia Rubra Vera—One splenectomy, great improvement: the patient is able to work.

Hemorrhagic Purpura (Essential Thrombopenia)—One splenectomy, in advanced stage of disease; good recovery.

Splenomyelogenous Leukemia—Twenty-nine splenectomies, one death in hospital, great temporary benefit in twenty-eight. Six are alive and able to work, one more than six years following

operation. The condition of the blood is improved but not normal. There is less anemia and less evidence of toxemia in splenectomized patients.

The fifty-nine miscellaneous cases, many of which have not been accurately classified, are not discussed in this paper.

The technic employed in the Clinic for splenectomy has been recently described by Balfour and it will not be necessary to lengthen this discussion by further reference to it.

The function of the spleen concerns the blood and is closely associated with the liver.

The spleen is chiefly a mechanical filter, which removes from the blood degenerated red cells and toxic agents above colloid size, such as microorganisms and debris, on which it acts before sending them to the liver for further detoxication and elaboration; it also develops lymphocytes.

While the function of the normal spleen is not important, the diseased spleen is a serious menace to the constituents of the blood and to the liver.

The spleen apparently does not initiate the pathologic processes with which it is concerned, but acts as a secondary agent.

Removal of the spleen in the splenomegalies and in certain blood states removed a pathologic agent, or breaks up a vicious circle.

In the estimation of the benefit to be derived from the removal of the spleen, the entire syndrome of which it is a part must be considered.

A chronically enlarged spleen which does not yield to reasonable medical treatment should be removed early, unless, in the individual case, there are contraindications to splenectomy.

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Discussion

Dr. Oliver J. Fay, Des Moines—We are very much indebted to Dr. Shannon for bringing this interesting subject up for discussion. The spleen still has much of the fascination of undiscovered territory, as Dr. Shannon has pointed out, and his checking up of the present status of our knowledge has been most interesting. It seems to me that from the surgical standpoint Dr. Shannon has included two essentially distinct subjects as regards the spleen: The spleen that is traumatized—ruptured, torn, shot, stabbed,

any of those conditions that may come up for what is known as a traumatized or injured spleen—is undoubtedly a different subject and is handled in a different way than is the spleen which has certain pathological conditions of more or less obscure origin. No one will deny that the injured spleen is essentially a surgical problem, though I should like to point out that, in cases of ruptured or traumatized spleen, splenectomy is not the only operation that should be considered. It is well known that in many cases of small lacerations of the spleen conservative treatment might well be preferred. Tamponing of a simple not too extensive rupture is often the only treatment required, and, in the case of relatively slight injury, one hesitates to deprive the organism, particularly in the case of the young, of an organ the function of which is imperfectly understood, even though experimentation has seemed to prove its function an unimportant one. Also in the case of the ruptured spleen which is densely adherent due to disease, splenectomy may be inadvisable or even impossible. Here tamponing, or ligation of the functional blood supply must be resorted to, this measure usually giving as good results as could be secured by removal of the spleen. In passing, I should like to point out that the period of latency which is often noted before the development of symptoms of rupture of the spleen is usually the result of natural tamponing. The splenic fossa is, relatively speaking, a closed cavity, and the pressure which it affords may control hemorrhage—sometimes permanently, often for a period of some hours or even some days. Ofttimes the same condition occurs in cases of traumatized kidney. I am less optimistic now than I was some years ago about the efficiency of splenectomy in the treatment of what Dr. Shannon has well termed "the obscure diseases of the spleen." The reported successes remind me that in the old edition of Osler that was one of the standbys when I was a medical student twenty years ago, similar cases of cures or remissions of six and eleven years were reported in cases of pernicious anemia treated with arsenic. The spleen should not be studied as a separate entity working in isolation. Its relation to other organs must be studied. Until we have some more definite knowledge of the etiology and pathology in these obscure splenic conditions, we must admit that the percentage of so-called cures is scarcely equal to the possible percentage of errors in diagnosis. Apparent improvement following splenectomy has been the rule in our cases, but after a few weeks, a few months, or in rare instances, a few years, death has inevitably supervened. Since most of these splenic diseases are characterized by periods of remission, it is difficult to determine what part, if any, splenectomy has played in temporarily improving the patient's condition and in prolonging life. Granted that there is such improvement in many cases, is it great enough, certain enough, to offset the primary mortality? I want to make an exception in hemolytic icterus, especially that of the acquired type, for here I believe that operation is successful in the majority of cases. I can see no

reason whatever for doing splenectomy in polycythemia.

Dr. Malcolm L. Harris, Chicago—This is a subject about which I know very little. So far as my personal observations go in reference to the spleen, I think we are all in the same boat. Any one who will read Monahan's monumental work will, I believe, come to the conclusion that there is really little known about the subject. He suggests every theory which can be thought of in relation to the function of the spleen, and concludes the book by saying that none of them has ever been proven. In regard to attributing to splenectomy beneficial results, we know very well that removal of the spleen in normal individuals does not disturb the normal rhythm of life in the least, so whatever its function or functions may be, they are compensated, they are not essential, as they are all perfectly taken care of after the spleen is removed. In perhaps all the conditions in which we find enlarged spleen, it is very questionable whether the enlargement itself has anything to do primarily with the symptoms. It would seem that enlargement of the spleen is simply the result of other conditions about which we so far have learned but little. Therefore to remove the spleen for a condition the cause of which we do not know, does not warrant us in attributing the fact that the patient lives to the splenectomy. So I think we have to go very slowly in reaching a conclusion that splenectomy has been the cause of the patient surviving the disease for which operation was done.

Dr. V. L. Treynor, Council Bluffs—It will be recalled that we have had some very glowing statistics relative to the effectiveness of splenectomy for various pathological conditions. However, I think the surgeons are now getting on sane ground in reference to the indications for same, and I am sure that in the future we will not see splenectomies done as indiscriminately as has been the custom in the past.

Dr. William Jepson, Sioux City—There are two points, of more or less importance to the general practitioner, which I would like to emphasize: As regards the treatment of these cases, I can add nothing to what has already been said by the essayist. It is of course recognized that when these patients succumb, they do so through hemorrhage into the abdominal cavity—a hemorrhage which may be rapid or gradual, depending upon the degree of splenic laceration. Although I can conceive of the possibility of a small laceration spontaneously having its vessels closed, in the case of the more extensive injuries I would not like to place much confidence in that possibility. Hence, these cases are purely surgical in the sense that there exists the necessity of early exposing the spleen and early removing it if the laceration is extensive, or tamponing it as was advocated by the writer, or suturing it as was done in one of my cases, the lacerated tissue being first carefully excised and the spleen sutured. The injury in the case cited was caused by a bullet. The treatment indicated proved very satisfactory, and there was uneventful recovery. In other words, if

you are considering the matter of not removing the spleen, I think you should consider the possibility of suturing it before you decide upon tamponage, because the latter affords some opportunity, though possibly not great, for infection. The principal point to which I would call attention in connection with traumatized spleen, is, that oftentimes the injury occurs under conditions where it would not be suspected. I recall two instances illustrative of this. A young boy was kicked in the hypochondriac region by a horse. He recognized that an injury had occurred, but went about his business for some six or eight hours when he became so ill that he had to go to bed, and when operated upon twenty-four hours later the entire abdominal cavity was found to be filled with blood. In the soft structures there was no external evidence that an accident had occurred. The second case referred to occurred in the late war. A private, while walking at night along one of the company streets, fell over an ordinary water pipe (which was exposed) in such manner that his abdomen came in contact with it. He got up and walked to his tent, removed his clothing and went to bed. This was, as I remember, about eleven at night, and at three or four o'clock in the morning he recognized that something had happened more serious than he had at first anticipated. Some difficulty was experienced in making a positive diagnosis for the simple reason that on a previous occasion the boy had had a general peritonitis from a septic appendix which had been drained, and which was recognized to have been a factor although occurring a couple of years before. At this time his abdominal cavity was found to be filled with blood, and I am quite confident that had splenectomy not been done, as in the other instance, recovery might not have been hoped for. The second point I wish to emphasize is this: Occasionally the spleen is the site of malignant growth, although this is very rare. But we can save those patients only by making a diagnosis. In the case of one patient who suffered from a sarcoma of the spleen, splenectomy was done, and, although this was some fourteen or fifteen years ago, the woman is now living and married and the mother of a couple of children. I introduce this latter fact not simply to show that she is well, but to illustrate one point that has been emphasized here, namely: Removal of the spleen does not seem to influence the health of the individual at all. I doubt if any of us could make a diagnosis of sarcoma or other malignant growth of the spleen without exposing it, at least in some doubtful cases. I quite agree with the essayist in the method of dealing with a condition of the spleen which is secondary to primary pathological process elsewhere. It is quite doubtful whether, merely because of the fact that the patient recovered, we should assume that we have been rendering him the real benefit hoped for.

Dr. Shannon—I quite agree with Dr. Fay in his suggestion that there are really two subjects involved, one medical and the other surgical. But my special interest at this time is centered in splenec-

tomy. I do not agree with Dr. Fay that in many instances tamponing the spleen is very safe where there is trauma, because there is added danger of infection and of subsequent hemorrhage, nor do I agree with Dr. Treynor in his suggestion that in the future there will not be so many splenectomies performed. My judgment is that many more splenectomies will be performed, but the cases will be more carefully selected. Open minded observation and careful study of each case, together with unbiased attention to the clinical experiences of others, will guide us in this selection. Referring to Dr. Fay's remarks with reference to pernicious anemia; it must be borne in mind that Dr. William Mayo had thousands of cases from which to draw those fifty-seven. In one case which I had opportunity to closely observe, the improvement was remarkable, there was no question about the diagnosis, and now after two years the patient's condition is good. One other suggestion: surgeons who are looking not only to the welfare of their patients, but to the subsequent satisfaction of the patient and family, should have a frank discussion in advance of operation with reference to the probabilities or possibilities involved. I thank you for the kindly criticism. I had expected a greater amount of disagreement in the matters presented.

THE RELATION OF HEREDITY TO DISEASE IN MAN*

JULIUS S. WEINGART, M.D., Des Moines

In calling your attention to one of the most profound questions in biology, I make no apology for the fact that, in the course of my remarks, I shall be compelled to speak of many non-medical things. Inasmuch as medicine and pathology are but a part of the greater science of life itself, it is clear that many facts ascertainable only by experimentation with plants and animals have an intimate bearing on our knowledge of similar processes in man. The study of heredity necessitates the observation of heritable characters in living things far removed from us in ancestral relationship, but I shall try to show that striking similarities exist between the mechanisms which are demonstrable for them and those which have been observed in man.

To those who have already studied the subject, some of the introductory explanations may appear too elementary. I hesitate however, to plunge at one *in medias res*, without being sure that the basic principles are clear. And, in fact, these principles are so wonderful, that even to those already acquainted with them they must excite renewed admiration. Therefore I solicit

your attention first to a review of the laws of Mendel, and will rehearse the original investigations which led to their discovery.

Into the romance of these discoveries I shall not go at length. That Mendel's name should have been given to them is a rare instance of poetic justice. Working in his garden plot at the abbey of Bruenn, Johann Gregor Mendell, an obscure Austro-Silesian priest, showed by a brilliant analysis of carefully conducted experiments, all the essential laws of these most obscure phenomena. The article in which he recorded his results and conclusions was published in a small scientific journal, and was forgotten, until, in 1900, sixteen years after his death, and thirty-five years after it had been published, it was almost simultaneously found and read by three eminent botanists, Tschermak, Correns, and De Vries, and presently genetics became a science instead of a mere mass of conjecture.

Mendel in his study of the characters of hybrids was successful in ascertaining the rules of inheritance, not only because of his keen analysis of his results, but because, with rare judgment, he decided that at least to start with, one character should be considered alone. This more than anything else gave him the correct clue, as it is in the multiplicity of characters that the difficulties become insurmountable.

Mendel chose for his first experiments the common garden pea, *Pisum sativum*. This because the flowers are self-fertilized. Stamens and pistil are enclosed in the keel of the flower and only rarely is cross-fertilization accomplished by insects. Perfect confidence in the character of the fertilization Mendel recognized to be absolutely essential. Purposeful cross-fertilization was done by dusting the desired pollen on the desired pistil.

Mendel chose first several pairs of characters and watched their recurrence in the following generations. Two varieties of pea were first crossed, each of which bred true, one producing plants about six feet high, the other, plants about one and one-half feet high.

Mendel found that the hybrids were all tall. He therefore called tallness the dominant character, and dwarfness, or absence of tallness, the recessive character. In the next generation, the progeny of the hybrids showed the proportion of three tall to one dwarf. The dwarfs on further breeding bred pure. One-third of the tall bred pure. But two-thirds of the tall on rebreeding still produced one-quarter pure tall, one-half impure tall, and one-fourth dwarfs. This was demonstrated to several generations.

* Presented before the Seventy-Second Annual Session, Iowa State Medical Society, Ottumwa, Iowa, May 9, 10, 11, 1923.

- Mendelian Heredity in *Pisum sativum* -

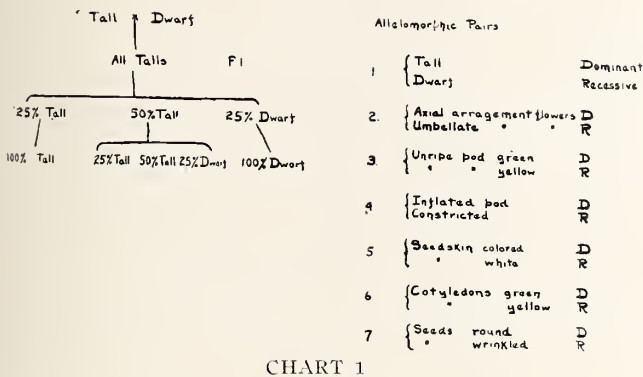


CHART 1

The pairs of characters are denominated allelomorphs. In *Pisum sativum* seven such allelomorphous pairs were investigated and the same ratios always obtained. He also showed that it did not matter which parent carried the character. The results were the same.

- Heredity with one Allelomorphous Pair -

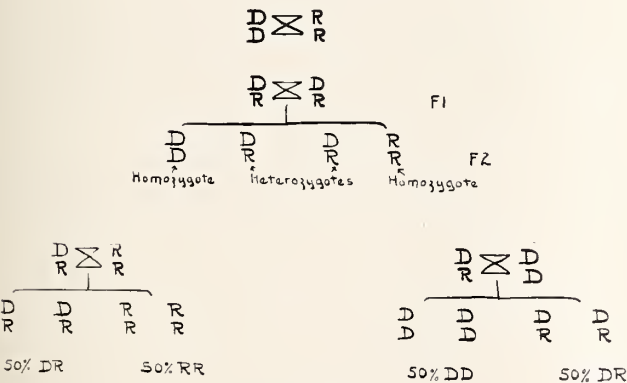


CHART 2

The theory of these ratios is shown by chart 2, and is readily explained by the mathematical laws of probability. If one parent carry the dominant character D, and the other the recessive R, the only possible arrangement will be that the hybrids have the form DR, and, the dominant character being present, they will resemble the dominant, in this case, tall, parent. However when DR and DR are mated, three possibilities are present, and one of these is twice as probable as either of the other two. Thus in the second filial generation the formula will be DD-2DR-RR.

The resultant individual from the union of two sex cells is termed a zygote. When the zygote is pure for its evident character it is termed a homozygote, when impure, a heterozygote. In chart 2 it is evident that the crossing of heterozygotes with recessives will result in 50 per cent DR and 50 per cent RR. Crossing of heterozygotes

with homozygotic dominants will result in 50 per cent DD and 50 per cent DR.

The heterozygotes in the preceding examples are indistinguishable from the dominant homozygotes, and only further breeding will show their true heterozygotism. In some cases however, this is manifest, and it is perfectly easy to determine from the visible characters whether the individual is a pure or an impure dominant.

The classical example of this is the Andalusian fowl, a variety of chicken whose feathers have a peculiar bluish color. It was noted for many years by fanciers that Andalusians never bred true. No matter how many attempts were made to secure a pure strain, a certain number of blacks and splashed whites always appeared in the progeny.

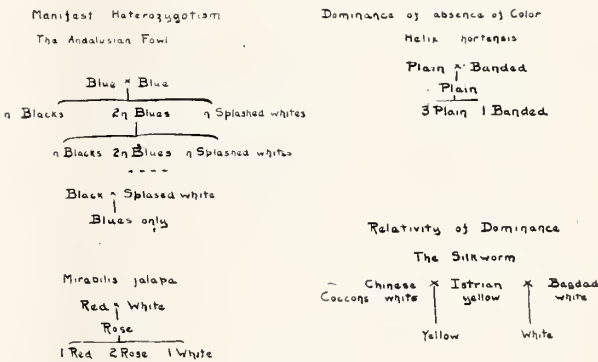


CHART 3

The explanation is readily seen in chart 3. The Andalusian is a heterozygote and of course will never breed true. Its color is due to its heterozygotism.

The same thing occurs in a small flower *Mirabilis Jalapa*. The pure dominant is red, the recessive white, the heterozygotes, rose-colored.

Lest we infer that color is always dominant, consider the garden snail, *Helix hortensis*. Here the plain shell is dominant and the banded shell recessive. For it is most important to grasp the idea at the outset of studies in heredity, that the outward appearance of an individual is no criterion of its hereditary characters. We shall see again and again why an apparently normal individual may have abnormal offspring.

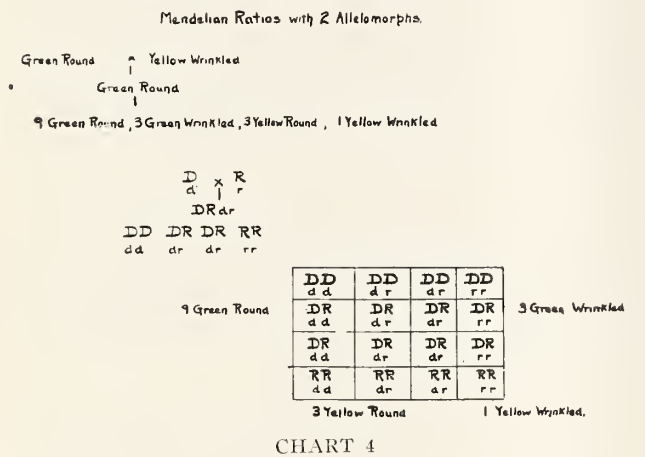
A character may also be dominant in one instance and recessive in another, as is shown by experiments with the Istrian silkworm whose cocoons are yellow. When bred with the Chinese variety whose cocoons are white, yellow is dominant, but when bred with the Bagdad type whose cocoons are also white, yellow is recessive.

When two allelomorphous pairs are considered together, the problem becomes somewhat more

complex, yet Mendel pointed out the law with great accuracy in his paper.

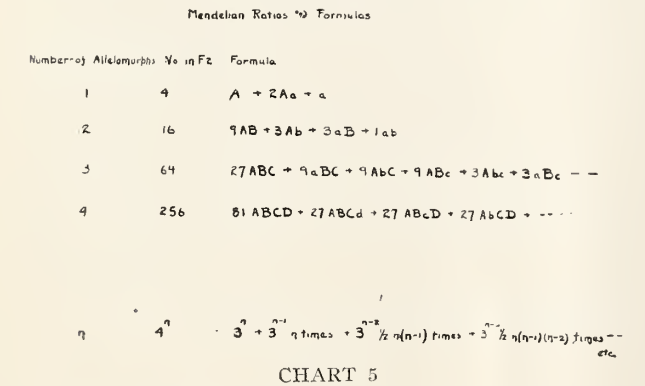
If a pea with a green round seed be mated with one bearing a yellow wrinkled seed, the seeds of the hybrids will all be green and round, inasmuch as the greenness and roundness are dominant characters. The crossing of the heterozygotic green rounds will give the following proportions in F2.

Nine green round, three green wrinkled, three yellow round, one yellow wrinkled.



The factors are represented by D and R, using small letters for the second pair. Each pair segregates as if alone. But when considered together, the number of combinations is increased, as each of the first can be taken with any one of the second. The problem then resolves itself into the question of in how many ways a set of m things can be taken with any one of a set of n things, which is mn times.

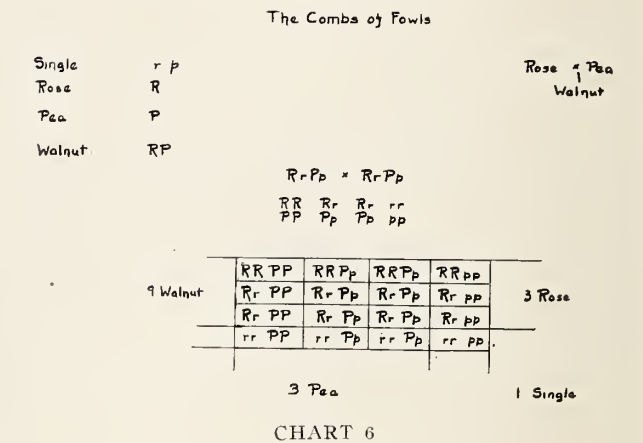
When further numbers of allelomorphic pairs



are considered together it is evident from chart 5 that there is a rapid increase in the number of possible differences and in the complexity of the formulas. The last one expresses the general mathematical equation. For twelve pairs it has been estimated that the number of individuals present in F2 will be 16,800,000, with 4096 possi-

ble combinations of manifest characters. It is evident that the Mendelian laws are fully competent to account for the wonderful variety in nature.

In the combination of two allelomorphic pairs a new type may arise, which is due to a fusion of factors from each pair, giving an entirely different character from that seen in either alone. This is illustrated in the combs of fowls.



A detailed description of the various types of comb styled rose, pea, walnut and single, is not necessary here. Suffice it to say that such differences are recognized by fanciers.

When rose and pea are crossed a new type appears, termed walnut, and when these are crossed, the ratio and mechanism is as shown in the diagram.

This is exactly the same as the mechanism discovered by von Dungern and Hirschfeld in regard to the heredity of the blood groups in man. It was assumed by them that there were two allelomorphic pairs in regard to the iso-agglutination and iso-hemolysis of human blood, A and non-A representing the type most frequently seen in Europe, and corresponding to group 2, and B and non-B the type less frequent in Europe, and corresponding to group 3. AB represents group 1, and nonA- nonB, group 4, Moss classification.

The various combinations are in part represented in chart 7 where a small letter is used to denote the recessive.

All physical characters rest on an anatomic basis. Let us then consider the anatomic basis of heredity. It was natural that the carrier of these qualities should have been assumed to be the nucleus of the sex cell. This is probable from the small size of the spermatozoon. Experiment has also showed that where it has been possible to fertilize ova which have been deprived of their nuclei, the resulting organisms are all like the male parent.

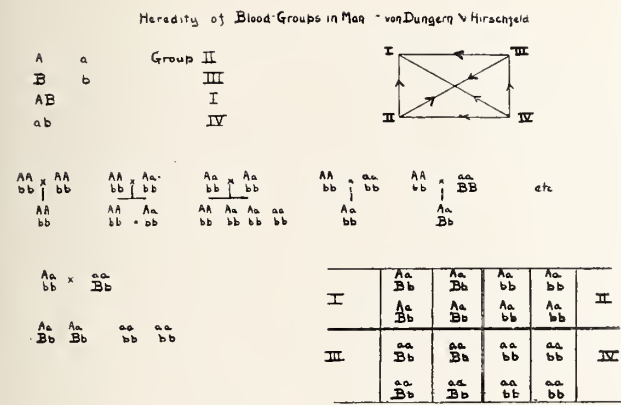


CHART 7

The evident behavior of the chromosomes in karyokinesis leads us to believe that they are the carriers of hereditary qualities. The number of chromosomes is perfectly definite for each species, usually 2, 4, 6, 8, 12, 24, 32, or even several hundred. In man their number is not certainly known, their very small size making investigation difficult. Probably however their number is 24.

Now when any cell of the organism divides, the chromosomes form the so-called mitotic figure, and divide, so that an equal number, the number characteristic for the species, goes to each daughter cell. The same is true of the primitive sex cell. However the mature sex cell contains just half that number. The process of maturation is shown on chart 8.

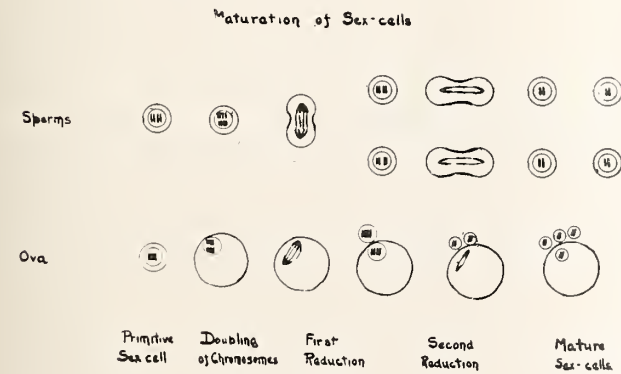


CHART 8

The first reduction in the sperm results in two cells with the somatic number of chromosomes. In the second reduction only half the somatic number goes to each mature cell.

In the ovum, the first set of chromosomes is thrown off as the first polar body. After the second reduction the mature ovum has also just half the number of somatic chromosomes. The polar bodies are lost.

Hence in a very real way each parent contributes half to the heredity of the new individual,

and the number of chromosomes is kept constant for the species. This does not mean that the outward appearance of the individual is half like his male and female parent, but that the hereditary constitution was contributed by each equally. What the sex cell did not happen to carry was of course not passed on.

In respect to the Mendelian inheritance of one character we have definite cytological evidence. This character is sex. In *Lygaeus turcicus*, a small insect, it was first observed that one pair of chromosomes were much smaller than the others, and also showed differences in form and staining characters. These were denominated as Heterochromosomes X and Y.

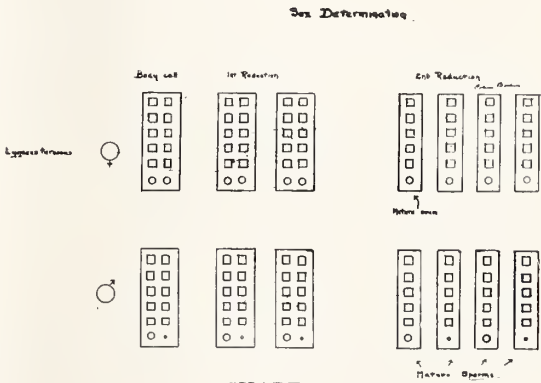


CHART 9

In the male one of these was smaller than the other, and it was naturally assumed that these chromosomes were the sex carriers. In the diagram the process is shown schematically. The squares represent the somatic chromosomes and the circles the pair of sex carriers. It is evident that every mature ovum will have one sex chromosome of the larger type, while half of the sperms will have the large and half the very small one. The mechanism of union will be exactly the same as the union of pure dominant and hybrid as shown in chart 2. If DD is female, and DR, male, DDxDR results in 50 per cent DD and 50 per cent DR.

This, as can be seen, will necessitate an equal number of the sexes, and this is true. According to the laws of probability, there would be an equal chance for the male-carrying sperm and the female-carrying sperm to reach the ovum: In man however that proportion of the two sexes is not quite exact. About 106 boys are born to 100 girls, and if all the products of conception are determined the ratio is more uneven, 120-125 to 100. In man there are probably two pairs of sex chromosome, both pairs present in the female, and one pair absent in the male. Hence it has been conjectured that as the spermatozoon carry-

ing maleness is lighter in weight because of the two less chromosomes, it is somewhat more apt to win in the race for the ovum.

Not only does the sex character play an important part in general body formation, but it has a definite bearing upon the presence of certain hereditary characters and upon certain defects and diseases. In order to prepare ourselves for a consideration of these phenomena, it will be best at this point, to study one of the most interesting examples of sex-influenced heredity.

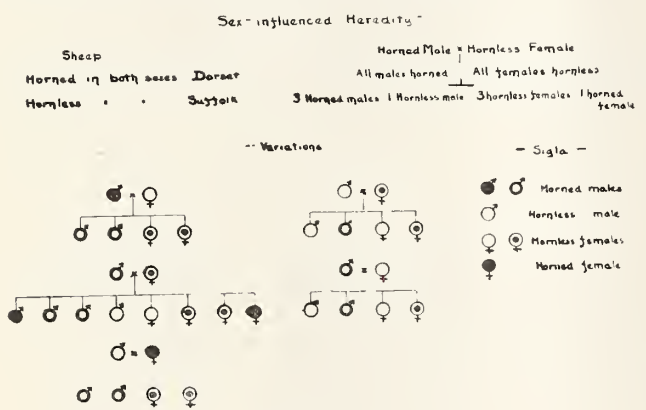


CHART 10

In the Dorset breed of sheep both male and female have horns. The Suffolk breed is hornless in both sexes. When a horned male is crossed with a hornless female, all the males are horned, all the females hornless. In other words the presence of horns is dominant in the male and recessive in the female. Now when the heterozygotes in F1 are crossed together, the proportion in F2 is 3 horned males, 1 hornless male, 1 horned female, 3 hornless females. Furthermore the hornless male proves on further breeding, pure for the absence of horns, and the horned female, pure for the presence of horns.

Color-blindness in man has the same method of transmission. The defect is so much more common in men than in women, because the latter must be homozygotic before the defect is evident. About 4 per cent of the male, and less than one-half per cent of the female population is color blind.

One of the best tests of the theory of the transmission of this defect would be to inquire about the sons of color-blind women. According to the diagram, all their sons should be color-blind. Bateson says that the records of seven such women were found, and that all the seventeen sons of these women were color-blind.

In regard to hereditary diseases it is in place to inquire first how we know that any disease or defect is heritable. There are several questions which we need to consider, for we must approach

this subject with an open mind, and be sure that too much is not taken for granted.

The first characteristic of such diseases and defects must be the lack of external factors. However many heritable diseases are influenced by external factors, as for example, Xeroderma pigmentosum, in which no symptoms appear until the susceptibles are exposed to the sunlight.

Again diseases whose cause is unknown are often supposed to be hereditary until the cause is discovered. Note the change of attitude toward tuberculosis since Koch demonstrated its etiology. However the finding of an infective agent does not always prove that there is not a heritable factor.

The incidence of a disease in families may be taken as ground that it is heritable. However we must remember that both tuberculosis and favus were once thought so for this very reason.

Mendelian ratios may furnish a clue, but finally our decision is made perhaps as much from the character and course of the disease and from its clinical picture as from anything else.

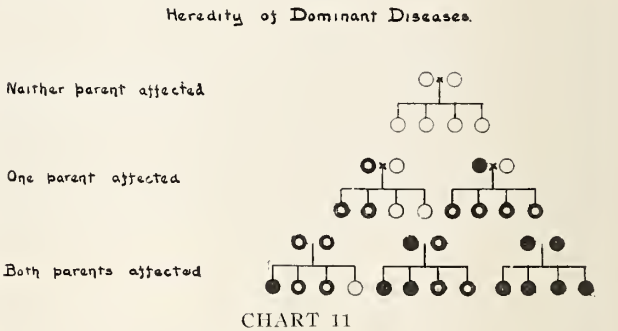


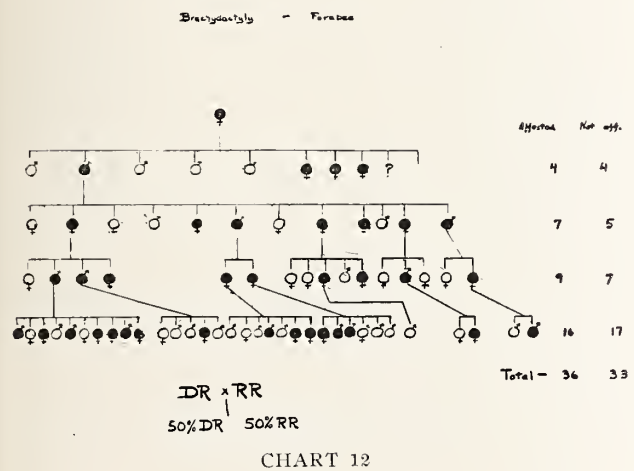
CHART 11

Chart 11 shows the mode of transmission in dominant diseases. When neither parent is affected none of the children are affected. When only one parent is affected 50 per cent of the children are affected if he is a heterozygote, 100 per cent, if he is a homozygote. And when both parents are affected, 75 to 100 per cent of the children are affected. The characteristic of dominant diseases is that they are always transmitted by affected individuals.

An excellent example of this type is seen in chart 12 in the brachydactylous family of Farabee. This defect consists in the absence of the second phalanx of each finger. All four fingers of each hand are like the thumb. It is said also to have been the same in the toes of affected individuals.

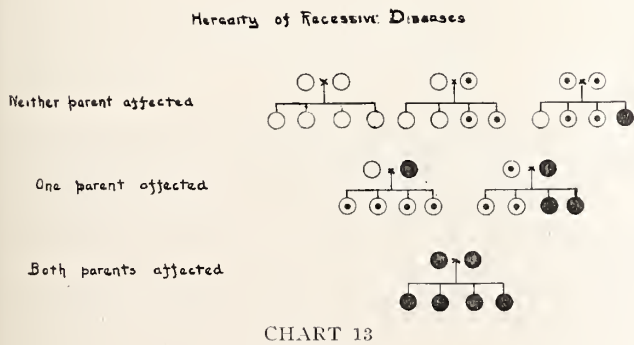
In order to calculate the Mendelian ratios we must remember that the affected are in great probability of the form DR. A homozygote in this type of disease can result only from the mating of two affected individuals. This is improb-

able, firstly, because the dominant diseases are the rare ones, and secondly, because, inasmuch as the defect is perfectly evident, marriage with another affected individual would be shunned. Therefore as the affected are of the form DR and they married normals, RR, 50 per cent of their children as shown in chart 2 would be brachydactylous. One sees how closely the figures approach this ratio.



The characteristic of recessive diseases is that the parents and often the brothers and sisters do not show the character.

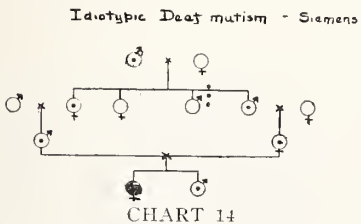
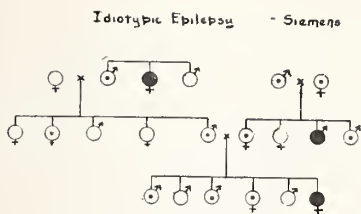
Reference to chart 13 shows why this is so.



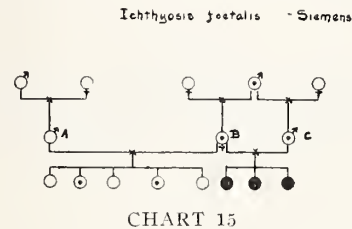
When one parent is heterozygote the disease does not appear in the children. Even when a homozygote marries a normal the children do not show the defect. The only affected children are seen when each parent either is affected or carries the taint. Hence the much greater probability of recessive characters developing from consanguineous marriages.

The family in which idio-typical deaf-mutism occurred is an example of this (chart 14).

The history of this interesting case of ichthyosis fetalis is as follows:



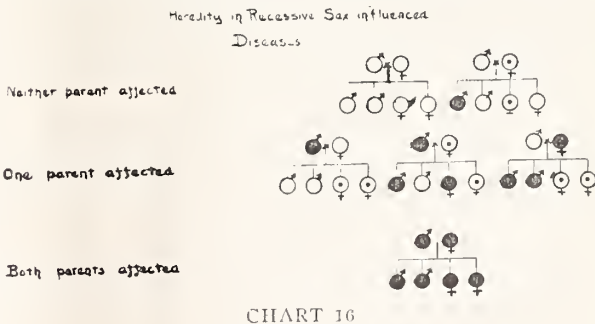
Woman B had five healthy children by Man A. After his death she had three illegitimate children by C. All had fetal ichthyosis. It turned out



later than C was her half brother. Of course only one-fourth of the children of this union should have had the disease, but in such small numbers Mendelian ratios cannot be shown.

The determined percentages may also be lower than normal because by their late appearance the patient dies before he is affected and so is classed as normal. In many recessive diseases we are dealing with defects which cause the early death of the individual or prevent him from mating--as ichthyosis congenita, amaurotic family idiocy, myoclonus epilepsy, etc. The affected never have any children. The defect is carried on by heterozygotes.

In regard to sex-influenced dominant diseases we know very little. In chart 16 is shown the



mechanism in sex-influenced recessive diseases. The males are more frequently affected than the

females. An affected female can result only from the two cases where a consanguineous marriage would be most likely. Also the affected male will always have unaffected children unless he marries a carrier.

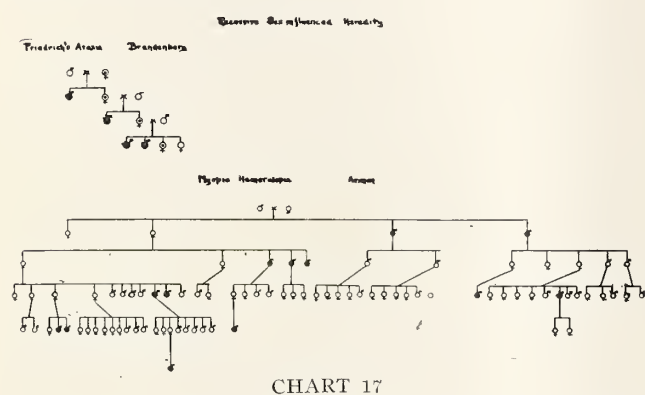


CHART 17

In chart 17 are shown two examples of this type.

The most interesting sex-influenced recessive disease is hemophilia. An extensive genealogical research is shown in chart 18. It is always trans-

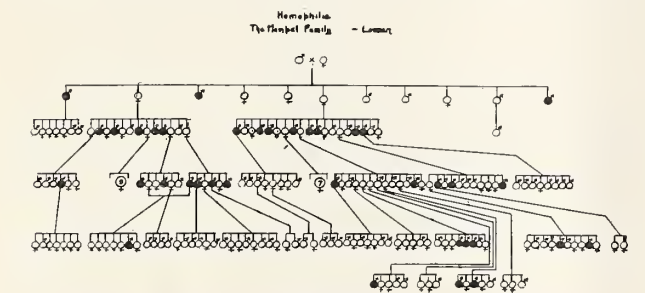


CHART 18

mitted by the female, and never by the males. Even the grandsons of the affected males are free. The females never have true hemophilia. A recent investigator never found a case in a woman. In other recessive sex-influenced diseases woman may be affected though rarely. Hemophilia seems to stand alone in this respect.

It must be remembered that there may be truly hereditary or non-hereditary forms of the same disease. Deaf-mutism, for example may be due to hereditary factors, or to early meningitis, syphilis, etc.

In chart 19 are seen two cases where in one parent, although a deaf-mute, the defect must have been due to an extraneous factor, because had this parent had truly hereditary deaf-mutism, all the children would have been deaf-mutes.

Strange to say, but intelligible in the light of the remarks made at the beginning of this paper, apparently the same disease may follow different modes in different families, just as the color of the silk-worm cocoons in chart 3.

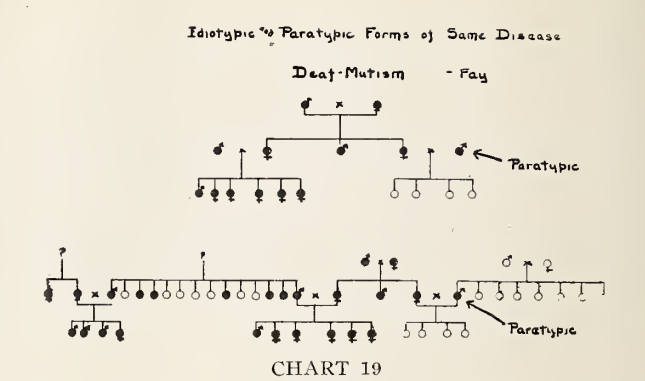


CHART 19

Also we find partial albinism, dominant; total albinism, recessive; hemeralopia, dominant; hemeralopia with myopia, recessive, etc.

The question is a complex one and I shall be satisfied if I have merely stimulated your interest in it. The science of heredity needs most of all a great collection of facts, and to that any physician may become a contributor.

THE PRACTICAL VALUE OF THE X-RAY TO THE EYE, EAR, NOSE AND THROAT SPECIALIST*

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This paper is presented with the hope of emphasizing some of the practical applications of the x-ray to the specialist and not with the intention of discussing roentgen technique or therapy. However, it may be well at this time to say that we feel quite sure better results may be had if the roentgenologist and the head specialist adapt a good technique as their standard from which readings may be of greater value. The position and angle of the ray should always be the same so that the operator will not be confused by unusual distortion.

The x-ray examinations or findings in eye, ear, nose and throat practice is most important. Emphasis may be placed on this statement in view of the fact that a very high percentage of infections in the body have their origin in tissues above the clavicle. The following anatomical structures should be considered, viz.; frontal sinuses, antra, ethmoids, sphenoids, mastoids, eye, sella, jaw, teeth, esophagus and bronchi. The sinuses of greatest importance to the nose and throat men are perhaps the frontal sinuses.

Frontal Sinuses—The average plate shows a right and left frontal sinus. One or more sinuses may be present on each side normally or ab-

*Presented before the Seventy-Second Annual Session, Iowa State Medical Society, Ottumwa, Iowa, May 9, 10, 11, 1923, Section Ophthalmology, Otology and Rhino-Laryngology.

normally outlined, or there may be an absence of one or both.

The character of the shadow cast by the sinus is in direct proportion to the density of the material through which the ray passes. The plate, therefore, will show the sinus anatomy and the

A frontal sinus may be any size or shape. The sinuses are formed by invasion from an ethmoid cell and vary greatly as this process has more or less invaded the frontal bone. "This may be well advanced at the end of the first year but usually has not materially excavated the frontal bones at this early time. Consequently at birth or during the first year, any involvement of the future frontal cells would clinically be an anterior ethmoiditis."¹



Figure 1—All sinuses on right clear, left blurred.

degree of pathological involvement or other developmental variation. A dense shadow showing on the plate may be due to sinusitis and empyema, a shallow cavity, a thick anterior plate of bone, a diseased and thickened lining membrane, a periostitis, a leucic bone or osteomyelitis, or an absence of a sinus.



Figure 3—Antra: Antra clear patient, age three and one-half years.



Figure 5—Sphenoid illustrating variation in the size of the sphenoidal sinus. Upper cut shows a large sphenoid filled with shot. Center cut shows a small sphenoid filled with shot. Lower cut shows complete absence of the sinus.

According to good authorities, the frontal sinus has clinical significance at the age of five years. Killian reports operation on the frontal sinus of a child, fifteen months of age. "Die Erkankungen der Nebenhohlen der Nase bei Scherlack." E. Meyers reports operating a frontal sinus in a child three and one-half years of age. "Berliner Klin. Wochenschr., 1905."

Dr. L. W. Dean in his paper,² states that frontal sinus infections during childhood have been very rare. In his service, the youngest child with a diagnosis of frontal sinusitis was seven years of age. He has never found it necessary to operate on a frontal sinus in a child twelve years of age or younger. The density of the shadow

from an empyema case does not necessarily indicate the character of the purulent material contained within the sinus. The shadow may be very dense or of an indefinite character and at operation the material found may be a thick tenacious or of a thin watery consistency. It is a rare exception, however, to have a clear negative plate

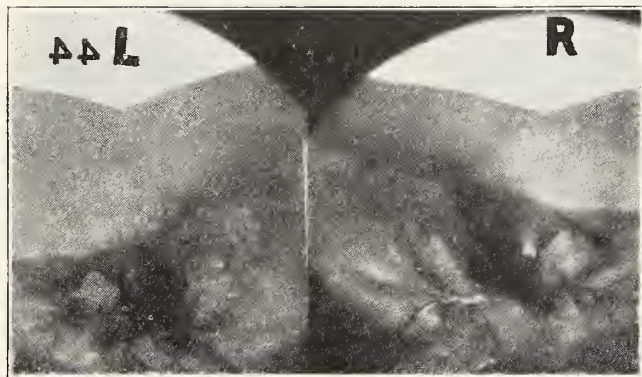


Figure 6—This cut is an illustration of a typical pneumatic type of mastoid on the left and an infantile on the right.

of the sinuses and find at operation a pathological condition of consequence, vacuum sinusitis of course excluded. Vacuum sinusitis, however, is not in reality a pathological condition of the sinus. The obliteration or at least a disturbance of the drainage system is the pathology. A shadow shown in a shallow frontal or the thick plate of bone over the sinus in many instances is very suggestive of a pathological involvement. To differentiate it is necessary to have a lateral view.

The lining membrane has been shown in many cases to be thickened as much as eight times the normal. A periostitis, an osteomyelitis, a leucic or tubercular involvement of the frontal bone over the sinus will show an apparent sinusitis which may be interpreted or differentiated only by the observation of a large number of sinus plates.

Multiple sinuses when involved must be carefully studied before operation due to the fact that the sinus may be operated, curetted and one or more of the involved sections may be left unopened. The same principle may be applied to the posterior orbital sinus. For detail, study of sinus variation, I would refer you to Dr. Prentiss' article: Roentgenological Interpretation of Accessory Sinus Variation.³

Antra—The plate will show the presence and position of the lateral sinus and show whether or not there are cells over-lying the sinus. The maxillary antrum like the frontal sinus will, of course, show, blurring according to the condition present. The maxillary antrum is in all probability, more uniform in all patients than all other sinuses.

Dr. E. E. Hughes reports a case in a baby three weeks old with an empyema of the left antrum. This case was operated and a large quantity of pus was evacuated on pressure over the effected cheek.

Ethmoids—The anatomy and pathology of the ethmoids, practically in all cases casts a shadow in direct comparison with other sinuses.

Sphenoids—The information revealed in the examination of the sphenoid is probably the most unsatisfactory as compared with any other sinuses of the head. We have found that the lateral stereoscopic view reveals practically all that can be seen in this sinus and posterior ethmoids.

For the vertical method of examinations of the sphenoid, I will refer you to "New Technique for the Vertical Examination of the Sphenoids and Ethmoids with Demonstration of Special Film Holders, by Geo. E. Pfahler, M.D., Philadelphia, Pennsylvania, in The American Journal of Roentgenology, Vol. IX, No. 3 March, 1922, pp. 193-5. Either method of examination is of prac-

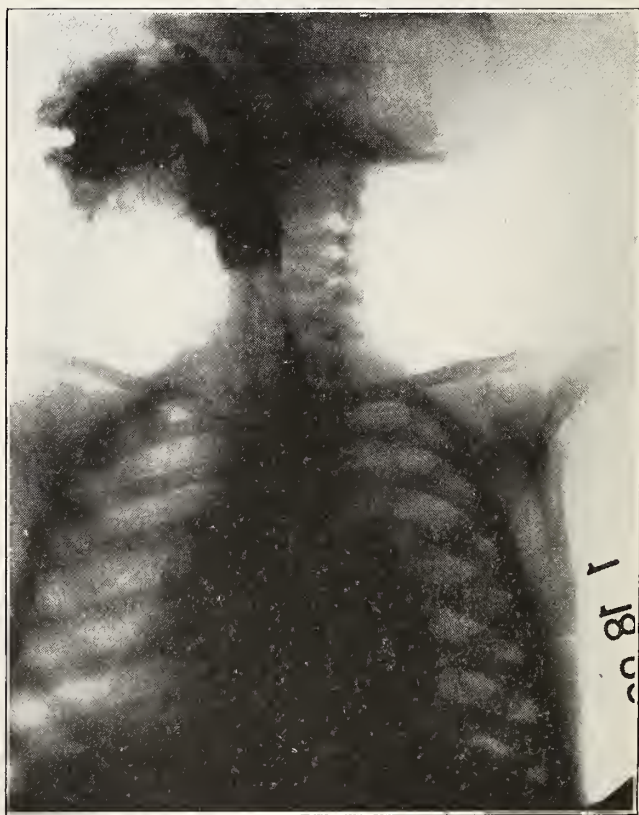


Figure 7—Stricture of the esophagus in child age two and one-half years who swallowed lye.

tical value only when the sinus is clear or negative. If blurring of the sinus outline can be seen then the blurring may be differentiated.

Mastoids—The mastoid plate to the otologist is one of, if not the most important single aid in diagnosis. Special importance should be placed

on the observation of the plate before performing a mastoidectomy. The greatest value in the mastoid plate is in demonstrating the anatomical distribution and cell structure. The invaluable essential to the otologist is in the type of cells shown on the plate. The number of cells may be very extensive. In not a few cases, the cells have been found into the zygoma. The mastoids are ordinarily classified into about three groups: pneumatic, deploic and mixed. We feel that the infantile type should be used and a great emphasis placed thereon. Law, Beck and others have stated that the type of cells in mastoids are uniform or at least similar on the right and left side. We have found, however, that probably the majority of cases have at least a variation and in many cases, patients have a large pneumatic type of mastoid on one side, with a sclerotic or infantile on the opposite. The type of cell in a case of mastoiditis, we consider most important. For a more detailed report relative to the type and method of stereoroentgenograms of the mastoids, I would refer you to my article, *Mastoid Stereoroentgenograms Presenting Variations*.⁴ The patient with a large pneumatic type of mas-



Figure 8—Malignant stricture of the esophagus.

toid cell infected will invariably show clinical signs and symptoms of mastoiditis. If the mastoid cell is of an infantile type the clinical evidence as a rule is not equal to the severity of the involvement.

These two statements may be substantiated from the fact that in the large pneumatic type of mastoid, there is a thin plate of bone over the cell with a corresponding thick bone between the cell and the brain. The reverse is true in the infantile type. Therefore, the patient may have a



Figure 11—Cut shows a perforation of the esophagus into the left bronchus.

critically involved mastoiditis showing no external evidence due to the very thick dense layer of bone over the mastoid cell if any be present; while a very thin shell between the mastoid and brain is being undermined by the infection developing meningitis.

Eye—The principal value of the x-ray in the examination of the eye is for the location of foreign bodies. For this localization we have used the Sweet eye localizer.

Sella—The examination of the sella will show the contour of the body anterior and posterior clinoid processes. The size of the sella we have found is not of real practical value.

Jaws and Teeth—Examinations of the jaws and teeth is of course very essential in that they are so thoroughly discussed as the origin of all foci of infection.

Esophagus and Bronchi—The most common examination of the esophagus and bronchi is probably to show the presence of and the location

of foreign bodies therein. We have, however, had for examination a large number of esophagus cases with pathological lesion with more or less a complete obstruction. The fluoroscopic examination will show in a number of these cases the character of the obstructive lesion and the amount of dilatation above. We have also found that the combined esophagoscopy and fluoroscopic examination of the radium in the malignant lesion of the esophagus to be very valuable. The radium with this method of application can be placed in direct apposition to the lesion.

The value of the x-ray to the eye, ear, nose and throat specialist will show in practically all cases the presence or absence of, the anatomy of, and the pathology of all the sinuses, if any be present. The identity of the pathology may or may not be conclusive.

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BILATERAL PERITONSILLAR (QUINSY) ABSCESS WITH CASE REPORT OF SOME UNUSUAL FEATURES*

HENRY G. LANGWORTHY, M.D., Dubuque

The subject of peritonsillitis or quinsy abscess, while an old one, at times becomes a real problem in handling. With this fact in mind, the following case report will prove interesting, since it covers the ground of the more unusual bilateral abscess and serves to emphasize a somewhat newer idea in treating the bad cases.

The undoubted cause of quinsy abscess is an infection of the tonsil crypts in the supratonsillar fossa with direct extension to the adjacent peritonsillar tissue causing a violent septic infection ending in abscess. Throat soreness with increasing difficulty in separating the jaws, and guttural tone are the characteristic symptoms. Pushing of the reddened tonsil toward the median line and marked tense swelling or bulging of the usually supratonsillar region of the soft palate, confirms the diagnosis.

Case Report—Brief History and Management

Patient, male, A. K., age twenty-six—Brought into Mercy Hospital on mid-night August 14, 1921, with immediate history of sore throat, abscess, and violent

repeated hemorrhages for forty-eight hours from presumably a previous tonsil incision on the left side resisting all measures to stop it. Hemorrhage reported so persistent that possibility of carotid ligation was considered by the attending physician.

Examination—Marked mental apprehension. Patient showed moderate prostration, not greatly exsanguinated or septic. Both tonsils reddened with the usual supra-tonsillar swelling, especially on the right side and slight oozing from a small incision above left tonsil, but no active free hemorrhage. Patient most uncomfortable. The general examination by Dr. H. A. Stribley showed "slight indefinite systolic murmur heard over the entire precordia, but mainly at the apex and transmitted to the axillæ. Heart very slightly enlarged. Urine negative. Blood count, whites 15,000 and hæmoglobin 70 per cent. For first few days heart murmur increased in intensity and a septolic murmur developed over area different in quality from one heard over apex region. Blood-pressure septolic 126 and diastolic 74."

Treatment—Given stiff hypodermic of morphine sulphate, an injection of normal horse serum, hot applications externally to side of neck, hot mouth cleansing and general medical and nursing care and attention, but otherwise let alone and as quiet as possible. Twenty-four hours later, upon no further appearance of fresh hemorrhages, and while in bed (first operation) an attempted straight incision was made in the swollen supratonsillar region of the right side, but without striking pus. No unusual bleeding followed this attempt. August 16, on the second day in the hospital (second operation), case taken to the operating room, throat thoroughly cocanized with 50 per cent solution and a circular incision made around both tonsils, upper part, just outside the capsule, and by careful dissections a large amount of pus evacuated. Some obstructing portions of the tonsil were also removed at the same time. No particular hemorrhage followed and the case left the hospital a few days later improved. For the next ten days, however, the abscesses on both sides kept refilling and discharging, and finally flared up again on August 27 into another full-blown double quinsy attack. Immediate operation under ether advised. Morphine and atropina given hypodermatically (third operation). Tonsillectomy of both tonsils performed under the rather adverse conditions of marked throat swelling and blocking, and more or less obliteration of all anatomical outlines. Hemorrhage moderate. Good recovery from ether, and no untoward symptoms or complication followed.

Relief from the tonsillectomy was immediate and complete and patient very grateful. Patient went under general anesthesia (ether) smoothly and without disturbance. Blood-pressure at operation same as at entrance and under anesthesia pulse remained regular and of good quality throughout.

Three days later case discharged in an unusually good physical condition, considering what he had been through and with temperature practically normal.

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CONCLUDING REMARKS

The older method of treatment consisted in (1) lancing somewhat indiscriminately, and as best one could under a wholly inefficient weak cocaine solution, the point of what appeared to be the greatest bulging, usually somewhat above and externally to the tonsil in the hope of striking pus. Quite as often as not our old style incisions did not strike pus for the reason that the tonsil is so buried in the side of the throat, well external to the anterior pillar that the knife went into the tonsil and not beyond outside the tonsil capsule proper. We have all had our troubles with this kind of an incision in the past.

The present day treatment may be said to consist in incising as high as possible the junction of the anterior pillar and tonsil after thorough throat preparation by preliminary hypodermic of morphine and by application of 50 per cent solution of cocaine and use of adrenaline, as though about to dissect the tonsil itself and by retracting the pillar and following the capsule, the abscess being reached with fair surgical sureness. This method is a set operation, however, on the operating table requiring an assistant to depress the tonsil and a sponger so that the operator will have free use of both hands and a clear field for operating.

A newer and more improved method, I may say our future method of handling the bad bilateral abscess cases, would seem to be clearly illustrated in this case by the third method used, i. e., by the more radical method of complete removal of the tonsil (tonsillectomy) which provides free drainage, immediate relief, and no chance for the refilling of other pockets which so often happens. The procedure is not mentioned in the text-books and in only two or three scattered monographs in special literature have I come across it, but in bad cases, to my mind, it will probably replace, in time, our previous methods of treatment in the unusual very severe double quinsy cases. At any rate through the employment of all types of operative procedure a clear measure of comparison was obtained and the only one that met the indication squarely was complete removal of the tonsils.

The history of this case and radical treatment employed has been placed on record because of the fact that it is not the generally accepted viewpoint at the present time.

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THE RELATION OF FOCAL INFECTIONS
TO THE KIDNEY*

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Infections of the kidney is a subject of increasing interest for the reason that these infections are more frequently diagnosed today than only a few years back. Ten years ago pyelitis was a very unusual diagnosis, while today it is recognized at once. Similarly other infections of the urinary tract are more commonly recognized, and are of equal interest to the general practitioner and the urologist.

It is a well known fact that the colon bacillus dominates the field in 50 to 80 per cent of kidney infections. The source of this infection is from the intestine, transmitted by the blood stream to the kidney and after passing through the kidney substance these bacilli have a great preference to remain and multiply in the kidney pelvis, resulting in what we commonly term pyelitis.

An observation that is frequently made is that if any obstruction occurs in the urinary tract the urine soon becomes infected above this point of obstruction. Tying off a dog's urethra results in the bladder urine being infected in a few hours. The explanation of this fact is that the colon bacillus is not an unusual passenger in the urine and can be found in almost any specimen of so-called sterile urine by proper cultural methods. Therefore when an obstruction occurs infection results.

However, obstruction is the factor which prolongs a pyelitis but in most cases not the initial factor.

The clinical evidence of the relation of the bowel to kidney infections may be noted by the occurrence of pyelitis following diarrhoea, constipation, various gastrointestinal disturbances, and gross lesions in the bowel, as appendicitis. For some reason in these bowel disturbances, there is a great overgrowth of colon bacilli in the intestine; a great out-pouring of bacteria into the blood stream; a chill, a high temperature; the kidneys are overwhelmed with bacilli; the urine is infected, and we have an acute pyelitis of the colon bacillus type.

If no points of obstruction exist in the ureters, the bladder or the urethra, this acute condition clears up spontaneously despite the use of urotropin, soda, vaccines, and other fashions in the treatment of the disease. Much the same as the typhoid bacillus disappears from the urine in pyelitis from that bacillus during typhoid fever.

However, unfortunately the explanation of this

*Read before the Austin Flint-Cedar Valley Medical Society, Waverly, Iowa, November 13, 1923.

chain of events is not always quite so simple or uncomplicated as has just been set forth. The further complication is the occurrence of other bacteria of the coccus type along with the colon bacillus. Often this "extra" infection is not noticed, perhaps on account of the method of culture, perhaps the particular coccus is anaerobic and difficult to grow; perhaps these cocci are destroyed in the kidney and really do not reach the urine; or perhaps are overlooked in the great blood of colon bacilli in the urine.

What physician but has not heard some patient with a chronic infection of the urine remark that every time he catches cold his bladder is worse. That is exactly true.

Only recently Dr. Helmholtz of Rochester has called attention to the frequency of pyelitis in children following respiratory infections. Obviously the colon bacillus does not come from the respiratory tract but what does happen seems to be this; there is a shower of bacteria from the respiratory infection thrown into the blood stream; the kidneys are infected, or debilitated in some manner, and the colon bacillus being ever present finds a suitable place to grow, and in the space of a few hours the colon bacillus dominates the field. The speed with which this pyelitis then clears up is in direct ratio to the improvement of disappearance of the respiratory infection; providing, as has been mentioned before, that no obstruction to drainage exists in the urinary tract below the kidney.

Accordingly it is the viewpoint of not a few that the colon bacillus is not the infecting agent, but is an intercurrent infection of only slight importance; that the cure of the disease should be directed to the eradication of the infection above, or other than the colon bacilli.

Besides respiratory infections, rhinitis, bronchitis, sinusitis, tonsillitis, there are these days a multitude of abscesses at the roots of teeth. This last statement deserves a word of comment. For the last fifteen years it has honestly been believed that a tooth with the nerve extracted was a perfectly safe proposition, but no one can deny at this day that such a proposition was false. The ever increasing army of patients whose ailments are attributable to sepsis and whose sepsis lies at the roots of devitalized teeth is something more than mute testimony of the truth.

Now to return to the cure of chronic pyelitis. There are a great many cases which seem to baffle all efforts to obtain a cure. Medicines internally, dilatation of strictures of the urethra, dilatation of the ureters, lavaging the kidney pelvis with one kind or another of antiseptics, still the infection remains.

How startling it is to see these infections of the urinary tract fade away after the removal of say one or two abscessed teeth, or removal of chronically diseased tonsils; the drainage of an antrum; after the drainage of a gall-bladder or the removal of any other focal infection.

Indeed, the success attained by this mode of procedure is so consistently successful, that it has long since passed the experimental stage. Everyone concerned with the treatment of urinary infections could cite case after case which resisted all of the most erudite of urological procedures but which seemed to clear up almost spontaneously upon the removal of one or more focal infections.

And in acute infections of the kidney occurring with gross lesions in the bowel, such as appendicitis, one must not be misled by the urinary symptoms and findings and neglect the surgery of the disease. The kidney infection will disappear after the diseased appendix is removed.

Now at this point I will briefly mention the subject of stone in the kidney. Perhaps your attention has been called to the classical experiments of Dr. Rosenow and Meisser in the experimental production of stones in the kidneys of dogs. Cultures from the urine from patients having renal stones were selected. The cultures were introduced into the molar teeth of dogs through the root canal and the teeth sealed over. In a comparatively short time, stone formation was found in the kidneys of these dogs with such uniformity that the proof is, I believe, unquestionable. We are dealing at all times with the selective action of bacteria and this is one of the most graphic.

In 1922, Dr. H. E. Paul of Toronto called attention to the formation of renal stone in twenty cases of chronic osteomyelitis following war wounds. A most suggestive possibility is that nephritis might just as well have resulted, or on the other hand a chronic pyelitis. That the types of bacteria differ in their results and as to their selective action can be the only possible explanation.

It is not the purpose of this paper to exhaust the subject, but simply to call attention to the salient facts—as one might say, to note the trend of the times.

With this purpose in view, I would like to briefly mention the subject of nephritis, or Bright's disease, as it is most commonly known to the layman.

Acute nephritis may be caused by poisoning from metals, as mercury, lead and arsenic; by certain toxins. Other factors often mentioned in the past are cold, exposure, over-exertion and

autointoxication, all of which are perhaps a matter of speculation.

But acute nephritis following tonsillitis, infection of the para-nasal sinuses, subcutaneous infections, scarlet fever and measles occurs with too much regularity to ignore their significance. In fact, any sort of an acute infection at times may start an acute nephritis. Oddly enough acute respiratory infections quite rarely are followed by nephritis. This was noted by many in the influenza epidemic 1918-19.

Just how nephritis is produced by these infections is not decided. Ophuls is of the opinion that "The cause of true nephritis is continued bacterial septicaemia, and the lesions in the kidney are probably due to rapid bacteriolysis and incidental liberation of large doses of toxic material in and about the affected glomeruli." It would seem that the streptococcus group among the bacteria is the most frequent cause of acute nephritis.

On the other hand there are not a few who do not believe in the infectious nature of nephritis. The experiments of Dr. Newburg of Ann Arbor and also of Dr. McCollom of Johns Hopkins of producing nephritis in rabbits by the feeding of an excessive protein diet is rather suggestive of the popular opinion that over-eating is the cause of some cases of nephritis; certainly we see nephritis in some very well fed patients.

However, if the facts are obtained, there will usually be found a history of a preceding or accompanying infection, in these cases of nephritis. In the nephritis persisting after acute infections, such as scarlet fever, many a patient will be cured of this persisting nephritis by the removal of the tonsils, or the eradication of any other points of chronic infection. The only stipulation is that the condition is not too long neglected. For I believe it is true, that in time a secondary infection becomes primary and after a certain stage, the removal of a primary source of infection has little effect on a secondary infection. Perhaps due to the utter destruction of the tissues involved, there can be little improvement in the condition. Certainly everyone will admit this is true in endocarditis or arthritis, why not true in nephritis.

As to the nephritis of pregnancy, there is the popular opinion that it is due to a toxic condition of some sort or other. My experience in this type of nephritis is very limited, but one case will be mentioned. This patient had an acute nephritis at the second month, was advised to have the teeth x-rayed and the tonsils removed; this was not done. The patient miscarried at the fifth month, but the albuminuria did not improve until

the subsequent removal of a suppurating tooth and diseased tonsils. No doubt similar observations have been made by many, and I believe in the future will be made with greater frequency, with consequent better results, and possibly the "bogey" of the nephritis of pregnancy will be relegated to the past.

Another type of kidney infection is tuberculosis of the kidney which can usually be attributed to a discoverable focus of infection in the lung.

I do not propose to dwell on all the various phases of these infections; why one kidney is apparently involved in some instances and not the other kidney; why some infections persist in one kidney and clear up in the other; why the function of the kidney is impaired in one type of infection and not another type. These and many other phases would involve the whole subject of urology—which already, some may accuse me of attempting to cover in this brief discourse.

What I did wish to call to your attention, is the increasing opinion that diseases of the kidney are nearly always infections in origin.

In the report previously referred to of Dr. Paul on bone suppuration and renal calculus, he makes one very significant conclusion which I quote: "If every case of nephrolithiasis could be investigated with sufficient thoroughness, a history of a preceding systemic infection could be elicited. Until such a time as experimental and clinical investigation gives us some other definite cause, might not the presence of renal stone be considered presumptive evidence of a systemic infection?"

Could we make this conclusion broad enough to include other infections of the kidney; pyelitis, pyelonephrosis, pyelonephritis, and the various types of nephritis. Is not the presence of any one of these diseases to be considered presumptive evidence of a systemic infection, the focus of which should be sought for.

Therefore the cure of most diseases of the kidneys will be directed in two ways; the removal of obstruction in the urinary tract whether benign or malignant, acquired or congenital. And on the other hand the eradication if possible of the primary source of infection.

MONTGOMERY WARD MEMORIAL

Northwestern University Medical School has received an endowment of \$3,000,000 for a medical and dental school on the McKinlock Campus on Chicago avenue. The donor, Mrs. Montgomery Ward, gives the money as a memorial to her husband and it will be known as the Montgomery Ward Memorial.—Medical Journal and Record.

SOME POINTS IN THE MANAGEMENT OF NEW-BORN INFANTS*

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For the larger portion of nine years, the writer has worked in a hospital nursery where he routinely examines the new-born infants and supervises their care. This work was begun at the instance of Dr. J. C. Litzenberg, professor of obstetrics in the University of Minnesota, who deserves the credit of being the first obstetrician in this country to insist that the new-born baby belongs within the sphere of the pediatricist.

This paper will endeavor to present practical points in the handling of the new-born. Stress will be laid on the care of the skin and the eyes, on the prophylaxis and treatment of infections of the respiratory tract, on the care of feeble infants, upon methods of feeding particularly upon measures for insuring maternal nursing, and upon the causes and treatment of cyanosis, of convulsions and of hemorrhages.

Until he is three days old, the new-born babe should be oiled only. Thereafter, he may receive a daily bath followed by a rub with cocoa butter or some similar emollient.

The most common skin disturbance during the new-born period is prickly heat. The cause and the way of preventing this are obvious. An excellent application after it has appeared is made up of equal parts of talc, zinc oxide, glycerin and water.

Skin infections of the pemphigoid type may be very serious and even fatal. These infections are very contagious and isolation to prevent their spread is necessary. Our treatment consists in covering the affected area with a 5 per cent ammoniated mercury ointment. The official 10 per cent ointment is too strong, and irritates the skin of the small baby. Then each bleb, as it appears, is opened with a sharp cataract knife, the contents carefully evacuated and the base cauterized with a 20 per cent solution of silver nitrate.

Gonococcal ophthalmia is now rarely seen; but conjunctivitis and dacryocystitis are common in the first two weeks. The organism most usually found is the pneumococcus. The big point in treatment is not to over treat. An occasional short course of argyrol, or still better of zinc sulphate drops, to the eyes is helpful, but most of the time the eyes should simply be kept clean with boric acid on cotton pledgets, and protected against irritants particularly from dusty toilet

powders. The condition may not entirely disappear for three or four months; but with too much treatment can be made to last indefinitely.

The new-born infant is particularly susceptible to respiratory infections. Nasopharyngitis, at this age, is all too likely to lead to bronchopneumonia, to otitis media and to meningitis. The important point is to insist, first, that whoever handles the infant wear a mask if she has the slightest coryza or pharyngeal irritation, and, second, that visitors keep away from the baby. In the new-born, the external auditory canal is narrow and the drum lies obliquely. This renders examination difficult. However, if we find high temperature, with convulsions, rapid respiration, or crying together with a nasopharyngitis, we are justified in incising the ear drum if it is at all swollen.

The writer has been impressed by the large proportion of full term babies who act like prematures. In point of time, these babies are full term, they are twenty inches long, they weigh six pounds or more; but many of them have difficulty in keeping their temperature above 98° without artificial heat, and still a greater number are feeble nursers.

The subnormal temperatures in these babies are most frequently encountered in the early morning or on cold days. They are always of importance. Calories required to heat the baby can not go for gain in weight, and even in babies whose condition is so good that a chilling does not endanger life, it will hinder a gain in weight and cause a greater strain on digestion. Our rule is to take the temperatures of full term babies twice daily. If at any time, the baby's temperature falls below 98°, the temperature is taken every four hours, and artificial heat used, if needed.

The evil results of feeble nursing are, of course, well known—the mother's breasts being insufficiently stimulated gradually cease secreting, and the babe is bottle fed because "his mother had no milk."

We check on the feeble nursers by weighing them before and after nursing, with their clothes and diapers on. If they can not empty their mother's breasts, these are emptied by hand. This manual expression of the breasts serves the double purpose of supplying food for the baby's present needs, and also of keeping up the breast supply until the baby is able to nurse vigorously. The technique of manual breast expression was developed by Sedgwick. It consists essentially of two motions. First, the finger and thumb are pressed into the breast just beyond the areola; second, the finger and thumb are brought toward each other, this second movement, bringing the

*Read at the Iowa and Illinois Central District Medical Association Meeting, August 30, 1923, Davenport, Iowa.

finger and thumb together, shoots out a stream of milk. The procedure can be carried out with no more distress to the mother than that produced by a vigorously nursing babe. The mother can be taught to carry out the procedure herself. The biggest single factor in the production of an adequate breast supply is the regularly repeated emptying of the breasts. Vigorous infants may stimulate the breasts sufficiently, if they nurse one breast at a time at four hour intervals. More usually the young infant requires both breasts at each nursing, and with feeble nursers, especially with those who are not in the hospital, a three hour interval is often necessary. The length of the single nursing should usually be limited to a maximum of twenty minutes. We occasionally find it better to allow the babe to nurse as long as thirty minutes. It is readily seen that, if the mother nurses her baby more than thirty minutes, and then consumes from twenty to thirty minutes in expressing her breasts, she is devoting nearly a modern union labor day to the task of milking. Expression, to give the best results, should be done immediately after the baby nurses. Also the babe's complemental feeding should be given as soon as possible after he finishes nursing. This feeding should, if possible, consist of the milk expressed after the preceding nursing.

On the average, we find that after the first three or four days babies do best when they are getting about a pint of breast milk daily. At the end of two weeks, this will be increased to about twenty ounces.

If any baby is grossly underfed, we give after each nursing enough of a one-third milk mixture with 10 per cent lactose to make up a total for the feeding of from two to three and a half ounces. Our purpose is to conserve the baby's nutrition; but not to impair his appetite. This complemental feeding is very important during the second, third and fourth days, when the so-called inanition fever of the new-born is most common. The nursing bottle should be one which carries the old fashioned, soft nipple. The "Hygeia" type of nipple is too large and too hard for the small infant.

Cyanosis in the new-born may be due to aspiration of mucus, to simple atelectasis with non-inflation of the air sacs, to cardiac defects or to lesions of the central nervous system. Holding the baby with his face down and slapping him may relieve the trouble. If heart disease is present, crying will usually increase the cyanosis and not relieve it. If the babe has swallowed much mucus and amniotic fluid, the introduction of a 15 F. soft subber catheter into the stomach will work wonders.

The most frequent lesion of the central nervous system is hemorrhage, either into or about the brain. The usual symptoms are cyanosis, somnolence, twitchings, convulsions, general flaccidity, bulging fontanelle and unequal pupils. In about one-half the cases, intracranial hemorrhage is due not to birth injury, but to hemorrhagic disease of the new-born. Outside of the central nervous system, the hemorrhages due to this disease are usually manifest. They occur most often from the alimentary tract or the nose, occasionally into the peritoneal cavity or into the thorax where they may interfere greatly with breathing.

The greatest advance in the handling of the new-born infant, in the last ten years, has resulted from Rodda's work on the hemorrhagic disease. He found that all babies, during the second and third days, show a progressively increasing bleeding and coagulation time, which untreated may last for nine or ten days, and that if these times exceed nine minutes symptoms of hemorrhage are liable to occur. Accordingly, we now routinely apply his method of determining coagulation and bleeding time to all babies on the third day. Where we find them greater than nine minutes, we give prophylactic injections of thirty to fifty c.c. of whole blood. If hemorrhages have already developed, we use these methods to check our treatment. Each injection of blood causes a lowering of the time required for clotting. If after four hours, the time is again increased, we repeat the injection. As a rule three or four injections suffice. If a good result is not obtained after the first two injections, it is our practice to select a different donor for the third. The father is usually the best donor. The best site for injection is the areolar tissue about the thorax. It is only in the rare instances, where exsanguination is imminent, that transfusion is necessary.

The hemorrhages due to congenital syphilis will only rarely yield to treatment. The coagulation tests will also serve to diagnosticate cases of true hemorrhagic disease from those of spurious bleeding. We see every little while a babe who vomits blood he has drawn from his mother's nipples. Such infants will have normal bleeding and coagulation times, usually under six minutes.

If a baby shows evidence of intracranial hemorrhage, convulsions, twitchings, etc., our first procedure is to take the bleeding and coagulation times. If these are increased, blood injections are given until they are brought down to normal limits. Then if symptoms persist, we do a lumbar puncture, relieve the increased intracranial pressure, and, in most instances, relieve the symp-

toms. Rectal injections of chloral hydrate, in five grain doses, are also valuable in controlling these convulsions, and the dosage is entirely safe. If the bleeding time is normal, and the cerebral injury is entirely traumatic, lumbar puncture can be done at once. We have learned, from experience, that if lumbar puncture is done in a bleeding baby with intracranial hemorrhage, that the puncture is apt to be followed by a return of the symptoms of cerebral irritation together with a bulging fontanelle for the second time.

The tumors resulting from hemorrhage into the sternocleidomastoid muscle and into the scalp rarely require surgical treatment, and any such procedures are decidedly dangerous, especially if performed within the first ten days of life.

SYPHILIS—NEGATIVE BLOOD TESTS (WASSERMANN'S) FOLLOWING ARSENIC RASHES

ROBERT E. JAMESON, M.D., Davenport

I have been asked many times by laymen and physicians what effect an arsenic rash had on patients who had had a 4 plus positive Wassermann test before taking treatment, the following cases will better illustrate and make clear our experiences with such cases, which were treated in the government venereal disease clinic located in Davenport, Iowa.

In the past five years we have had seven cases who had an arsenic rash following the intravenous injections of neoarsphenamine, all these cases had a Wassermann blood test made before treatment was started, with the following results:

One case died two months after the rash developed, I did not see the case so do not know the cause of death, the other six cases all had a Wassermann test made after recovering from the arsenic rash and were negative as the Wassermann test showed; one patient six months later developed a 4 plus positive Wassermann reaction to the blood, treatment with trepol was administered and the patient has had one Wassermann blood test made since and was negative. The other five cases have all been negative to the Wassermann blood test from six months to a period of two years. One month ago a patient who had had an exfoliative dermatitis for over one year had negative blood test; the tests were made every six months for two years; this patient came in for another blood test one month ago and the Wassermann blood test was made at the Iowa state laboratories and it showed Al. 2 plus Cl. 3 plus, this patient is very sensitive to the mercury and

salvarsan or neosalvarsan, also mercury and potassium or sodium iodides; she will be given neo trepol, which I have used in a number of cases who are sensitive to other forms of treatment and I feel quite sure that she will not develop any unpleasant after effects from the neo trepol. The other five cases have all had Wassermann tests made at regular dates (every six months), and all have been negative up to this time.

We have had many enquiries at the government venereal disease clinic from physicians from time to time regarding our methods of determining when a patient is cured or released from treatment, our plan is as follows with every patient; the patients are advised when they apply for treatment that the government, state and county are willing to provide treatment for them free if they are without funds to pay a physician his fee for treatment; the government, state and county expect and demand and will enforce the following rules. Patients are first given a Wassermann test, this test is sent to the Iowa state laboratories, the report is placed on file (the Wassermann) blood test made at the Iowa state laboratories is made with ice box, Al. and Cl. and compared with other private laboratories has proven reliable, although some have questioned their findings, usually when positive however). The patient is given a course of treatment for syphilis, and six weeks after the course of treatment is completed he is instructed to call at the government venereal disease clinic for a Wassermann blood test, if this is negative, the patient is then instructed to call at the clinic again for a Wassermann blood test and every six months for a period of three years, if these tests are all negative, and no other signs or symptoms of syphilis he is advised to have his eyes examined.

If oculist reports negative he is advised to have a spinal fluid Wassermann test made; if that is also negative and no other signs or symptoms of syphilis the patient is advised that he or she does not show by tests or other examinations any symptoms of syphilis and is considered cured, but if at any time any symptoms develop that they do not understand to call at the government venereal disease clinic for further tests and examinations.

\$200,000 BEQUEST FOR STUDY OF CHILDREN'S DISEASES

Dr. Livingston Farrand, president of Cornell University, has announced a legacy of \$200,000 from an anonymous donor, for the establishment of an endowment fund for research work in the department of pediatrics.—Medical Journal and Record.

The Journal of the Iowa State Medical Society

D. S. FAIRCHILD, Editor.....Clinton, Iowa

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THE MEDICAL WORK OF THE NEAR EAST RELIEF

There is always more or less mystery connected with medical work in far away countries. We have been so busy with medical work at home that we have given little thought to what the medical profession is doing in countries the name of which we hardly know. While we have known of missionary work in foreign parts, it is only since the Great War that purely medical activities have come to our notice.

We have now before us a Review of the Accomplishments in Asia Minor and the Caucasus during 1919-20, edited by George L. Richards. The purpose of this book is set forth in the organization of the medical division. "It was decided soon after the armistice to send a relief expedition into Turkey. It was at once evident that a medical organization to care for the cases of starvation, illness and injury was as necessary as one providing for strictly physical; such as food, clothing and housing. Accordingly a medical staff, with its nursing assistants, was at once planned. The directorship of the medical personnel and supplies was given to Dr. Geo. H. Washburn, who, on account of previous residence in Turkey, was familiar with the language, customs and needs of the people there. Dr. Washburn had as assistants, Dr. George L. Richards and Dr. R. A. Lambert, and the force of nurses was recruited from the Red Cross, under the directorship of Mrs. A. C. Rothrock."

The original plans were to provide for fifteen hospital units. The plan was to use, so far as

possible, existing missionary hospitals and set up temporary ones where the need was necessary.

Derindji on the Asiatic side of the Sea of Marmora, some fifty miles southeast of Constantinople, was selected as the base of supplies. A unit with complete hospital and laboratory equipment was established at Smyrna, under the direction of Drs. A. C. Pratt, E. H. Bell and Lyman Richards. Another unit was established at Konia, under the direction of Dr. J. A. Smith and at Cesarea in charge of Drs. Whitney, O'Meara and Cannaway. At Sivas in charge of Drs. Maurice F. Smith and Hekymian. At Harpoot, Drs. Mark H. Ward and Ruth Parmelee. At Adana, Drs. D. M. Olkon and P. T. McCarthy. At Aleppo, Dr. R. A. Lambert, medical director, North Syrian District. At Aintab, with a corps of physicians. At Marash, Urfa, Mardin, Samsoun, Marsovan, Alexandropol and the Caucasus. At Erivan, Trebizond and at Ishmid.

These are the stations at which medical and relief work was carried on in the Near East, as referred to in the booklet sent out by the organization. This pamphlet recites in detail the immense work accomplished by the organization among a people brought to great distress following the World War. How little do we appreciate the suffering of these remote people in countries where civilization began; we may read in this report the self-sacrifice of devoted members of the medical profession whose object in life is to relieve human suffering. Not only may we learn of the medical activities in these countries, but also who these people are.

THE DEAN OF BOSTON UNIVERSITY SCHOOL OF MEDICINE

The following editorial from the Boston Medical and Surgical Journal will be interesting reading to former students of Drake University Medical School and to the Iowa profession in general. The writer claims the credit of introducing Dr. Begg to medical teaching.

This school of medicine, designated as a Class A institution, has had an honorable history. For many years devoted to the exposition of homeopathic theories, it was also known as progressive in its teaching of the fundamental sciences on which the structure of medicine has been built. Under the leadership of Dean John P. Sutherland it has kept well in the front ranks of medical schools. It is now entering upon another era of its history under the leadership of Alexander Swanson Begg, who has been elected to the office of Dean, made vacant by the resignation of Dr. Sutherland.

Dr. Begg was born in Council Bluffs, Iowa, May 23, 1881. His father was a Scotch Canadian, who

served with the Ohio troops in the Civil War. His mother was of pre-Revolutionary Dutch descent. His primary and secondary training was at Council Bluffs and Des Moines, Iowa, and completed in Ontario, where he passed the matriculation examinations for the Toronto and McGill Universities. His college and medical work was at Drake University, where he received the S.B. degree in 1906 and the M.D. degree in 1907. He had post-graduate work in the Harvard Medical School in the years 1908, 1910 and 1911. He held teaching position in the Medical School of Drake University prior to its absorption by the University of Iowa.

He was a teaching Fellow at the Harvard Medical School in Histology and Embryology in 1910 and 1911 (on leave of absence). He returned to the Harvard Medical School as instructor in comparative anatomy, his title being subsequently changed to instructor in histology and embryology and demonstrator in anatomy.

In 1915 he was engaged in administration work in the graduate school of medicine.

In 1921 he was appointed professor of anatomy in Boston University School of Medicine.

He is a member of the Massachusetts Medical Society, Norfolk District, the American Association for the Advancement of Science, the American Medical Association, and a member of the Committee on Pedagogics of the Association of American Medical Colleges. He has conducted research work in embryology. He was made lieutenant in the Medical Reserve Corps in 1916, attended the Infantry Training Camp at Plattsburg, and after helping to form the Boston Examining Board for Examination of Medical Reserve Officers, served on this board for about a year. He entered active service in May, 1917, in the department surgeon's office in Boston, thence to the office of the surgeon-general in Washington and became a hospital commander in France.

It will be recognized from this brief account that Dr. Begg brings to the Boston University School of Medicine ability as a teacher and an executive. The problems confronting medical schools are complicated because the recognized requirements demand the expenditure of large amounts of money.

Boston University has many friends. Dr. Begg's success depends largely on material support, for the faculty is united, ambitious, and will co-operate in plans for the future usefulness of the medical school.

NATIONAL BOARD OF MEDICAL EXAMINERS

Examinations by the National Board of Medical Examiners will be held: Part I, June 19, 20, 21, 1924; Part II, June 20 and 21, 1924.

All applications for these examinations must be made on or before May 15, 1924.

Further information may be obtained from the secretary, Dr. J. S. Rodman, 1310 Medical Arts building, Philadelphia, Pennsylvania.

A MEDICAL COLLEGE ON MOUNT OF OLIVES

A modern medical college and hospital will soon look down on Jerusalem from the Mount of Olives, according to an announcement by Dr. Nathan Ratnoff, president of the American Jewish Physicians' Committee, which has purchased eight acres of land for this purpose for \$50,000.

Dr. S. S. Goldwater, former health commissioner of New York and an authority on hospital construction, has volunteered to visit Palestine next summer and complete the plans for the hospital building. The hospital project is the result of a trip of inspection to Palestine last summer by a committee of New York physicians, including Dr. Ratnoff, Dr. David J. Kaliski and Dr. Samuel J. Kopetzky. The college and hospital are to be departments of the Hebrew University which is being built in the general scheme of Palestine development, on which the Palestine Foundation Fund, Keren Hayesod, already has spent about \$5,000,000.—Boston Medical and Surgical Journal.

ROCKEFELLER GIFTS FOR MEDICAL RESEARCH

Carrying out pledges previously made, \$1,000,000 has been appropriated to the medical school of the University of Chicago, \$1,000,000 to the medical school of the University of Toronto, and \$225,000 to the medical school of the University of Iowa. In addition, \$500,000 has been appropriated for endowment of the medical school of Alberta, Canada.

A gift of £50,000 has been made to Edinburgh University by the trustees of New York for fuller equipment of the university on its medical side. The Edinburgh Medical School is one of the most famous in the world. The gift will be used for the erection of chemical and research laboratories in association with the Royal Infirmary and also for completion of the endowment of a professorship of surgery on a full time basis.

The dean of the faculty of the Welsh National School of Medicine, at Cardiff, announces that the trustees of the Rockefeller Foundation has notified him of its intention to make a donation of £14,000 to the institution to be devoted to the building of new laboratories and clinical facilities.—Medical Journal and Record.

ROCKEFELLER ENDOWS OXFORD CHAIR OF BIOCHEMISTRY

The trustees of the Rockefeller Foundation have offered about \$365,000 to Oxford University for the endowment and development of the department of biochemistry. The trustees decided to make their offer at a meeting December 5, conditioned on the University raising an unstated amount of money.—Medical Journal and Record.

THE TRANSPORTATION ACT DOES NOT GUARANTEE THE RAILROADS ANY RETURN

The Interstate Commerce Commission in 1921 (64 I. C. C. Rep., 95) and again in 1922 (68 I. C. C. Rep., 681) said: "Determination of the percentage implies or carries with it no guaranty. Read in connection with the provision for recapture of one-half of the excess above six per cent it is, instead, a limitation."

President Coolidge, in his message to Congress on December 6, said: "It has been erroneously assumed that the act undertakes to guarantee railway earnings."

The railroads admit that failure to earn a fair return is their loss and that the United States is in no sense liable to reimburse them therefor.

The Interstate Commerce Commission shows that the net return of Class 1 railroads on the value of their property used in transportation service was as follows: For twelve months ended August 31, 1921, 2.88 per cent; August 31, 1922, 4.19 per cent; August 31, 1923, 4.90 per cent.

The Commission has decided that a fair return is 5¾ per cent.

The difference between the foregoing returns and a fair return is the loss of the railroads.

There is no guaranty.

W. H. Finley, President.
Chicago & Northwestern System.

SURGEON SUED FOR PERFORMING OPERA- TION WITHOUT PATIENT'S CONSENT

At Capetown, South Africa, a case came before the supreme court in which a surgeon was sued for \$50,000 damages because he performed a serious operation for cancer in a public hospital, without the patient's consent. He was, however, under the impression that the patient's consent had been obtained, and he maintained that the operation was the only method of preventing death. The plaintiff's lawyer argued that his client was entitled to refuse an operation and take the risk of death, and that the surgeon should have explained to him the necessity for operation and obtained his consent. The jury returned a verdict for the defendant.—Federation Bulletin.

THE SENATE OF SOUTH CAROLINA DEFEATS THE CHIROPRACTIC BILL

The Journal of the State Medical Association of South Carolina is commending the members of the senate for their attitude on the chiropractic bill recently defeated in that state.

COLUMBIA UNIVERSITY GIFTS

President Butler of Columbia University announced in his annual report to the trustees that the University had received gifts amounting to \$12,728,-

021 during the year ending June 30, 1923. This, it is stated, is the largest annual total received by the University in its history. Among the contributions for the medical school was nearly \$3,500,000 donated by the Harkness family; the \$325,000 estate of Joseph R. DeLamar; \$20,000 for tuberculosis research by the East River Homes and \$15,000 for research by Borden's Condensed Milk Company.—Journal A. M. A.

MEDICAL NEWS NOTES

Contest of the will of the late Dr. F. E. Seymour ended under terms of settlement whereby the widow agreed to pay John Stevenson Seymour of Des Moines, nineteen year old disinherited adopted son, the sum of \$15,500. Court costs, amounting to several thousand dollars, are to be divided.

Seymour died in January, 1923, leaving his entire estate of \$400,000 to his widow, a bride of three weeks, who was formerly Miss Olga Larson. Action to break the will was brought by the adopted son last fall, a trial of four weeks ending in a jury disagreement. Second trial of the case started last week. Settlement was announced when court convened this morning.—Des Moines Capital.

Dr. E. J. Wehman has received an award from the French government for his service among the French soldiers who had contagious diseases during the war. It is a silver medal, suspended on a tri-colored ribbon.—Burlington Gazette.

Doctor Kenefick was called to Burt recently to help Doctor Peters with an appendicitis operation. When he arrived he found that the patient was Doctor Peters' own son Russell. The young man had requested that the operation be performed by his father, and Doctor Peters, equal to the occasion, removed the appendix with the assistance of Doctors Kenefick and Clapsaddle.—Algona Advance.

Iowa University alumni of the college of medicine, and other old students and graduates, as well as physicians and surgeons from other cities, listened with pleasure, smoked with pleasure, and chatted with pleasure, at the function in their honor.

They came here to attend the thirteenth annual clinic of their alma mater—at least, the alma mater of most of them—the college of medicine, S. U. I., and were entertained, after the first day's formal program in the men's gym, at a smoker—plus.

Dr. Walter A. Jessup, president of S. U. I., delivered the main address of welcome.

A clinic in internal medicine was conducted by several S. U. I. exeptrts, at the surgical amphitheatre, contributing doctors being Drs. C. P. Howard, F. J. Rohner, W. E. Gatewood and V. C. Graber.

This was followed by a clinic in genitourinary surgery, under the direction of Dr. N. G. Alcock, in the same place.

The stellar address of the day was "Some Recent

Experiments on the Function of the Kidney," by Dr. Alfred N. Richards, professor of pharmacology, University of Pennsylvania. He gave a demonstration also, following an earlier obstetrical clinic by Dr. F. H. Falls.

During the afternoon a visit was made to the great psychopathic hospital, and Dr. Sampel T. Orton, its able chieftain, and his staff contributed to the pleasure and profit of their guests, on that occasion.—Iowa City Press.

Dr. H. C. Young of Bloomfield, Iowa, secretary of the class of 1891, Keokuk Medical College is making an effort to locate all graduates of the old school and asks the cooperation of the general public in furnishing information.

On June second next, a reunion will be held at Iowa City to which each and every graduate of the Keokuk Medical College is cordially invited and urged to attend.

Iowa newspapers are asked to assist in giving this matter publicity. Address all communications to Dr. H. C. Young, Bloomfield, Iowa.

Dr. T. E. Powers, representative, who for several weeks has been in Des Moines attending the special session of the legislature, was in Page county for a couple of days looking after some matters of business and while here authorized his announcement for reelection to the office of member of the state legislature. Dr. Powers is serving his first term and is proving to be one of the leading legislators and he will no doubt be returned without opposition and he should be.—Independent, Essex, March 7.

Alumni of Iowa University's college of medicine "foster son," the Keokuk Medical College, are planning a big reunion in Iowa City, for June 2, 1924.

The Keokuk institution was adopted by, and amalgamated with the S. U. I. college years ago, and the alumni are still listed in the Iowa University Alumni directory, as graduates of this institution by adoption.

The class of 1891, whose secretary is Dr. H. C. Young of Bloomfield, Iowa, is urging every graduate of every class, to make it a point to come to Iowa City on the day noted, to participate in the glad to hear from all potential attendants.—Iowa City Press.

Members of Waterloo Medical Society agreed to accept an offer of the county board of supervisors to minister to the sick and injured among the poor for \$2,000 a year, starting April 1.

Since the expiration of an old contract last spring, which had been operative for several years, the county board has been paying physicians at the regular charge per call, as the occasion demanded. Until now the medical society has been unwilling to renew the contract for less than \$2,500 yearly, the amount which has been paid for several years in the past.

Under terms of the contract, all calls for medical

aid from the county will be handled through the office of the overseer of the poor.—Waterloo Tribune.

The gift of \$100,000 to Northwestern University by Dr. and Mrs. Archibald Church of Chicago, for the purpose of endowing and maintaining a library for the University Medical School was announced by President Walter Dill Scott.

The Editor,
Journal of the Iowa Medical Society.

The discovery and development of insulin by Dr. F. G. Banting, Mr. C. H. Best and other cooperating investigators has brought relief to a multitude of sufferers from diabetes throughout the world. At a low price this boon has been placed within reach of all. But it is well known that only a beginning has been made in alleviation even of this one malady. Notwithstanding the magnificent advances that have been effected in arresting or averting many of the most grievous attacks of disease on human life, mankind is beset by enemies. Their strategy must be discovered and circumvented. This can be done only by patient research conducted in the main by skilled investigators who devote their lives to scientific enquiry. For these investigators the public at large must provide the means of support, for they it is who benefit immensely thereby. Such work has been going on quietly all over the world. Laboratories in the universities have groups of investigators working in cooperation under the direction of competent scientists. But only now and then does a result such as Dr. Banting achieved strike the imagination of the world. It is therefore but appropriate that advantage should be taken of it to appeal to the grateful public for support in making possible the continuance and prosecution of this work and of other investigations in medical science. To effect this and to signalize the discovery and the development of insulin, the Banting Research Foundation has been created.

The purposes of this Foundation have been defined to be:

(a) To provide, in the first instance, further funds for the support of the Banting and Best Chair of Medical Research at the University of Toronto.

(b) To establish a fund for the adequate financial support of such scientific workers as may have proposed definite problems of medical research, and for whom funds are not otherwise available. Such assistance may be given to persons working in the University of Toronto or elsewhere.

All financial arrangements in connection with the collection and reception of the principal and subsequent expenditure of the income of the fund have been vested in a board of trustees, the members of which are appointed for a term of three years subject to reappointment at the end of their respective terms of office. Trustees have now been appointed as follows: Sir Robert A. Falconer, K. C. M. G., D.Litt. LL.D., D.D., Edin., D.C.L., Oxon., chairman, president of the University of Toronto; Lieutenant-Colonel R. W. Leonard, honorary treasurer, member

of the board of governors of the University of Toronto; Rev. Canon H. J. Cody, D.D., LL.D., chairman, board of governors, University of Toronto; C. S. Macdonald, Esq., M.A., general manager, Confederation Life Association; W. E. Gallie, M.D., F.A.C.S., F.R.C.S., Eng., surgeon-in-chief, Hospital for Sick Children, Toronto; Professor J. G. Fitzgerald, M.D., F.R.S.C., professor of hygiene and preventive medicine, director, Connaught Laboratories, University of Toronto; Professor V. E. Henderson, M.A., M.B., professor of pharmacology, University of Toronto; Mr. John W. Rogers.

The trustees propose to make an appeal to the public for funds in the immediate future. In the meantime they desire to bring these facts to your attention and they hope that you will be good enough to communicate them to your readers.

Believe me,

Yours faithfully,

F. Lorne Hutchison,

Honorary secretary.

P. S.—Subscriptions to the fund will be welcome at any time and should be made payable to the Banting Research Foundation, Toronto, Canada.

LABORATORY NOTES, REASONS FOR UNSATISFACTORY REPORTS

For various reasons, some of them unavoidable, every public health laboratory receives specimens unsatisfactory for examination. Though the total number be small, each unsatisfactory specimen represents 100 per cent failure to gain the desired information from that particular specimen. During the fiscal year just ended the Laboratory for Venereal Disease Control at Iowa City, received 29,600 specimens for the Wassermann test. Of these 2.8 per cent were unsatisfactory for examination. The conditions found and the percentages of each are as follows: broken tube, 1.3 per cent; hemolysis, 0.9 per cent; insufficient serum, 0.4 per cent; anticomplementary, 0.2 per cent; and turbidity, 0.04 per cent. Perhaps a brief discussion of the causes of unsatisfactory conditions will assist physicians to take all reasonable precautions in preparing specimens.

Broken Tube—Outfits leave the laboratory in good condition, but before use, each tube should be inspected and discarded if even a minute crack is found. A needle left in the specimen usually breaks the tube. Protect the bottom of the tube by wrapping it with the cotton wadding provided, and by placing it next the cork in the bottom of the tin mailing tube.

Hemolysis may be due to the agitation of the specimen during the half hour required for clotting; to temperature extremes of summer and winter; to the age of the specimen if it was drawn a week before examination; or to attempts to sterilize tube and needle, which leave the laboratory in a sterile and chemically clean condition.

Insufficient serum may be due to failure to draw the tube three-fourths full of blood, or to neglect to

tightly replace the cork in the tube. Only the serum, which constitutes about 50 per cent of the blood volume, is used in the test.

Anticomplementary reactions may be due to bacterial or chemical contamination, or to an inherent quality of the serum which occasionally continues indefinitely.

Turbidity may be due to chyle, especially if the blood be drawn within two hours after a meal. It may also be caused by bacterial contamination which may produce false positive reactions or anticomplementary ones.

Additional care on the part of every one handling these specimens will reduce the unsatisfactory reports to the minimum. May we have your cooperation in this matter?

By order of

Wilbur S. Conkling,

A. A. Surg. U.S.P.H.S.

Don M. Griswold,

A. A. Surg. U.S.P.H.S.

LABORATORIES FOR THE STATE BOARD OF HEALTH

State University of Iowa

Bacteriological Division,

Service Letter No. 5.

To the physicians of Iowa:

The following information regarding the services rendered by these laboratories in connection with the control of diphtheria is submitted for your consideration.

Laboratory Specimen Outfits

The drug store which distributes laboratory specimen outfits in your city should have an adequate supply of diphtheria culture outfits on hand. If they are short, write us and we will send them a supply.

The Use of Large Number of Cultures in School Surveys and Epidemics

When requested, the laboratories will furnish culture tubes and swabs (without mailing cases) in quantities for use in school surveys and epidemics.

Don'ts in Taking Diphtheria Cultures

Don't take cultures until at least two hours after the application of antiseptics.

Don't use culture tubes in which the media has dried out or is contaminated with molds or bacteria.

Don't rub hard enough to break the surface of the medium or push the swab into the medium. Such cultures are unreliable.

Don't leave the swabs in the culture tube.

Virulence Tests

When a carrier condition exists for from six to eight weeks, the laboratories will run virulence tests when requested. From five to seven days are required for the completion of this test. Be sure and mark plainly across the data "Virulence Test Requested."

Time Required for the Examination of Diphtheria Cultures

All diphtheria cultures are placed in the incubator as soon as received and examined in the late afternoon. All cultures showing the presence of the diphtheria bacillus on the afternoon examination are reported at once. The remaining cultures are incubated until morning and final examination made. Reports on all diphtheria cultures are sent out within twenty-four hours after the cultures are received at the laboratories.

Services of the State Epidemiologist

The laboratories will furnish an epidemiologist to assist in the control of epidemics, the administration of the Schick test, etc., when desired. The local authorities being required to pay his transportation and living expenses while engaged in the work.

Don M. Griswold,

Director of Laboratories.

R. L. Laybourn,

Asst. Dir. and Chief Div. of Bacteriology.

Marshalltown, Iowa, April 2, 1924.

Dr. D. S. Fairchild,
Editor, Iowa State Medical Journal,
Clinton, Iowa.

Dear Doctor:

The enclosed letter is self-explanatory. It is an answer to a wire sent to Senator Scott of Marshall county, relative to the bill impending in the senate at that time, concerning the granting to chiropractors all the rights of duly licensed physicians and surgeons.

I, together with most of the other men belonging to the Iowa State Medical Society, was under the impression that the Society was represented and our rights taken care of by a legislative committee. If this were a fact, what explanation can you give me of the enclosed letter from Senator Scott?

(Signed) M. U. Chesire, M.D.

Des Moines, Iowa, March 31, 1924.

Dr. M. U. Chesire,
Marshalltown, Iowa:

Dear Doctor:

I received your telegram two days after the matter concerned in it was passed. I would appreciate it if you intend to wire me about a matter, you wire before it happens.

I have always voted against quackery of every kind, but it is apparent to me this matter doesn't cause much concern to you fellows or you would do something in advance of our consideration in the legislature. The people have a right to look to the medical association for information on this matter, but it has been neglected entirely during my six years in the legislature.

I shall continue to vote as I have in the past against this quackery.

With personal regards I am,

Very truly yours,

R. P. Scott.

Iowa City, Iowa, April 2, 1924.

Dear Dr. Fairchild:

Last summer one of our old patients, Mr. M. L. Olds, when seen last in the clinic requested that he be given a letter of recommendation for the purpose of enabling him to make an honest living by soliciting subscriptions. Inasmuch as this man had been our patient for several years, having undergone two severe operations and also, heretofore, never been known to be dishonest we felt it our duty to issue a statement to him to the effect that he had been our patient and should be considered in his efforts of making an honest living.

From that time I have had numerous letters from doctors and other professional men, advising me that this man had solicited their subscriptions for journals, collecting money and never giving anything in return for it. I finally found myself compelled to advise the attorney general of the fact who in turn has instructed the county attorneys.

I believe that by publishing this matter in your Journal, a warning could be issued to all members of the profession to be on the look-out and not allow themselves to be solicited for subscriptions. It seems this man has been defrauding the public and he has very grossly abused my name and I am most anxious that he should be held to account and stopped from his practices.

Thanking you for your courtesy, I am,

Yours very truly,

A. Steindler, M.D.

Des Moines, Iowa, March 1, 1924.

D. S. Fairchild, M.D.,

Clinton, Iowa.

Dear Doctor Fairchild:

Broadlawns will be open to receive patients about April first. The sanatorium is beautifully located, properly constructed and adequately equipped. We feel that you are going to be very proud of this institution and we want you to visit it.

The cooperation of the medical profession is essential for its success. We hope you will avail yourself of its facilities. We will work closely with the County Medical Society, the Health Center, the Public Health Nursing Association and all other health agencies in the county. With the assistance of the physicians, a distinct service can be rendered to the tuberculous of Polk county.

You will find herewith enclosed two information leaflets and an application blank for prospective patients. Additional copies may be obtained from the superintendent, the health center or at the office of the Iowa Tuberculosis Association.

Very sincerely yours,

Charlott Janes Garrison,
Superintendent.

John H. Peck,
Medical Director.

HOSPITAL NOTES

Success in their drive to raise funds sufficient to erect a new hospital at Fort Madison, was claimed by the King's Daughters, charitable organization.

The proposed structure will serve a large part of southeastern Iowa.

Funds amounting to nearly \$100,000 were subscribed by citizens.

The property known as the William R. Manning home, on First Street North, has been left by Mrs. Manning, who died in Florida to the city of Newton to be used for hospital purposes, according to the terms of her will.

Dr. Fred W. Bailey was chosen president of the St. Luke's Hospital medical staff at the annual election.

Dr. Lynn Crawford was elected vice-president and Dr. B. L. Sheldon, secretary.

Approximately sixty physicians attended.

Reorganization of the staff comprised the important business of the meeting.

Thomas Warner, St. Luke's Hospital member, presented the hospital new addition plans.—Cedar Rapids Republican.

SOCIETY PROCEEDINGS

Mills County Medical Society

Mills County Medical Society met February 15, 1924, at Malvern. Members present: Drs. E. V. Coughlan and G. M. Agan of Glenwood; Dr. Harry Hartje, Mineola; Dr. Edgar Christy, Hastings; Dr. G. D. Tipton, Henderson; Dr. J. G. Fowler, Emerson; and Drs. I. U. Parsons and Malcom S. Campbell of Malvern.

Polk County Medical Society

Polk County Medical Society held an important meeting at the Chamber of Commerce library at 7:30 p. m., February 26, Dr. M. L. Turner, president, presiding.

The program of the evening consisted in a presentation of the work of several committees on health and welfare activities. Miss Ada Hershy presented an elaborate report on The Work of the Public Health Nursing Association. Dr. Fred Moore reviewed The Activities of the Health Department of the Public Schools.

Dr. H. L. Saylor presented certain notations from health department work, in relation to the health of the city as the responsible health officer of the city of Des Moines.

A supplementary discussion followed, participated in by Dr. Lee H. Hill, Dr. A. S. Price and Dr. W. E. Wolcott. Two important matters formed the basis for discussion. First was the physical development of pupils in the schools, who, undirected, would grow up with certain deformities which would seriously impair their usefulness in after life. It was

shown that with the aid of a patient and properly trained physical director and the cooperation of parents would result in great benefit to the individual and to the community. A plea was entered for the cooperation of the family physician in influencing the parents. A second question was an unselfish cooperation of the profession with the city health officers in preventing and arresting infectious diseases which often are in hiding in unexpected places and appear suddenly without notice and without waiting for the settlement of ethical questions. It was unanimously agreed in emergency conditions, an unhesitating cooperation with the health officer should be recognized.

Scott County Medical Society

The Scott County Medical Society met Tuesday evening, March 4, at 8 o'clock at the Davenport Chamber of Commerce. The program consisted of obstetrical and gynecological case reports by Dr. H. A. Weis and Dr. B. H. Schmidt and a motion picture demonstration of the same subject by Dr. Frederick Falls, professor at the Iowa State University Medical School.

The Scott County Medical Society, in cooperation with the Rock Island County Society, is making plans for a three-day clinical meeting to be held in the tri-cities during the fall of 1924 and details for the program were discussed.

Dr. P. H. Kreuscher of Chicago was one of the principal speakers at the meeting of the Scott County Medical Society, held April 1 at 8 o'clock at the Davenport Commercial Club. An illustrated lecture on Fractures at and Near Joints and a lecture on the Syringe Method of Blood Transfusion was given by the Chicago physician.

A talk on Periodical Health Examinations, by Dr. J. I. Marker was one of interest to the doctors of the county. Discussion of this topic by Dr. George Braunlich and Dr. William Binford followed the talk.

Discussion of the talks by Dr. Kreuscher were led by Dr. Kulp, Dr. Bendixen, Dr. Lamb and Dr. Matthey.—Davenport Democrat.

Upper Des Moines and Northwest Iowa Medical Society

An important meeting of the Upper Des Moines and Northwest Iowa Medical Society will be held some time in July, 1924.

Arrangements are being made for a joint session of the Upper Des Moines and Northwest Iowa Medical Societies early in July, at Terrace Park Casino. The meeting will last two days. The program will include men from Sioux City, Sioux Falls, Des Moines, St. Paul, Minneapolis, Rochester and Chicago. Dr. Q. C. Fuller is chairman of the committee of arrangements. Dr. C. E. Birney of Estherville, president, and Dr. Harold Brereton of Emmetsburg, secretary.

Not only will there be an interesting scientific program, but also attractive social entertainment.

Four County Medical Association

The Four County Medical Association held their regular meeting at the Lewis Hotel at Cherokee, Wednesday evening, February 23. Dr. E. F. Smith of Cherokee, was chairman of the program for the evening, and Dr. J. H. O'Donoghue, chairman of the committee on constitution and by-laws. The following program was given:

Dr. G. C. Moorehead, Ida Grove, Common Colds.

Dr. P. B. Cleaves, Cherokee, Accident of the Rural Community.

Dr. W. W. Larsen, Le Mars, Deep X-Ray.

Dr. D. A. Herron, Alta, Physiotherapy—Facts and Fads.

The Iowa Clinical Society

The Iowa Clinical Society met at Council Bluffs March 1, 1924, at the Jennie Edmundson Hospital and the Clinic Building.

Cases were presented by Drs. A. A. Johnson and V. L. Treynor, W. E. Ash and Jack V. Treynor.

At the morning session cases were presented at Jennie Edmundson Hospital and in the afternoon at the Clinic.

PERSONAL MENTION

Dr. G. D. Darnall is believed to be the oldest practicing physician in Iowa. He is an Ohio Medical College graduate of 1867, and has practiced medicine in Iowa for fifty-two years. He first located at Solon, but came to West Union, fifty-two years ago. He was born in Paris, Illinois, May 28, 1843. He is president of the school board and the Fayette National Bank. He was fourteen years in the city council. He was in the lower house of the Iowa legislature in the famous Twenty-second General Assembly when William Larrabee of Clermont, this county, was governor, and among his fellow representatives were Albert B. Cummins, George M. Curtis, James A. Smith, John T. Hamilton, George L. Dobson, W. M. McFarland, James G. Berryhill, John E. Craig, James E. Blythe and John W. Luke. Mrs. Darnall has taught the beginners' class in the West Union Methodist Sunday school continuously for the past thirty-four years.—Fayette County Union.

Recently the Register had a sketch of Dr. G. D. Darnall as probably the physician longest in practice in Iowa—fifty-seven years, though the type recorded it at fifty-two years by mistake. Dr. William Horne, Mt. Ayr, has been in practice fifty-five-years. He graduated from the then Chicago Medical College in 1866, practiced in Illinois for a while and came to Mount Ayr in 1869. He is still in active practice every day. Dr. Horne is a member of the United Presbyterian church; he was on the United States pension examining board for twenty years; he was county republican chairman for twenty-five years; he is a member of the American Medical Association, the Iowa State Medical Society, and is now president of the Ringgold County Medical Society. He was eighty years old last December.—Des Moines Register.

Dr. Granville Ryan of Des Moines, Iowa, has been elected a member of the board of executives of the American College of Physicians.

Dr. and Mrs. Robert Worth Robb have decided to leave Iowa and locate in Olathe, Kansas. The doctor was graduated in medicine in 1904 and has also done post-graduate work at Iowa University. He has a degree in pharmacy also.

Dr. A. DeBey of Orange City celebrated the fortieth anniversary of his medical practice on Tuesday, February 20. About thirty friends gathered at the DeBey home at six o'clock and enjoyed a delicious three course dinner. Mrs. DeBey was assisted in entertaining by Mrs. J. G. DeBey and Mrs. J. F. De Young.—Alton Democrat.

Dr. W. W. Beam returned recently from his western trip which took him to Brownsville, Texas, thence west to Los Angeles, California, and up the coast to Seattle and back by way of Yakima, Washington. It was a continual round of visiting relatives all the way. We can recall when Dr. Beam first came into the county as a young man to practice medicine at Old Rolfe. Then calls were made horseback, and in all this time this is the first extended vacation we have known him to take and are glad he could take it. He enjoyed it and it seems to have agreed with him. California was so crowded with tourists the Doctor was unable to form any definite conclusions regarding ordinary conditions there.—Rolfe Arrow.

Word concerning the condition of Dr. and Mrs. George Stockman who are seriously ill in Sierra Marde, California was received by Mrs. Doral Holman from Mrs. Ruth Stockman Johnson who resides in Fort Dodge. Mrs. Johnson left to be with her parents. She received word from J. G. Melson, a former Mason City resident that Mrs. Stockman had had a serious relapse and was in a very critical condition. Dr. Stockman is in a hospital recovering from an operation. His condition is still serious and physicians fear that the shock of his wife's illness may prove fatal.—Mason City Gazette.

Dr. W. E. Saunders entertained at a dinner party at the Des Moines Club recently, honoring Dr. David Lewis of Montreal, Canada, who delivered a lecture at the historical building on "Great Discoveries of Scientific Medicine." The guests were Dr. W. W. Pearson, Dr. A. C. Page, Dr. O. J. Fay, Dr. W. L. Bierring, Dr. John H. Peck, Dr. J. S. Weingart, Dr. M. M. Meyers, Dr. Wilbur S. Conkling, Dr. R. R. Simmons, Dr. R. C. Doolittle, Dr. Raleigh Snyder, Dr. R. Parker, and the honor guest. Out of town guests were Dr. O. K. Plant and Dr. C. P. Howard of Iowa City.—Des Moines Register.

Dr. G. T. McCauliff who sustained an operation for appendicitis at Mercy Hospital is in splendid condition today and feeling in good spirits.—Webster City News.

Dr. James Taggart Priestley of Des Moines, veteran Iowa physician, was one of seven distinguished Americans who received honorary degrees from the University of Pennsylvania at Philadelphia, February

22, at the annual University day exercises in honor of the birthday of Washington. Dr. Priestley's degree, that of doctor of science, was not conferred in person as illness prevented his coming to Philadelphia. He is a grandson of Dr. Joseph Priestley, one time chemist of Philadelphia and the discoverer of oxygen, who was associated with the university in its earliest days. The degree will be conferred in person later. Provost Pennimann of the university paid a high tribute to Dr. Priestley and expressed regret over his enforced absence. John Bassett Moore, American member of the permanent court of international justice, received the degree of doctor of laws. Other recipients of this degree were: Richard Beatty Mellon, founder of the Mellon Institute of Industrial Research, Pittsburgh, and brother of Secretary of the Treasury Mellon, and Federal Judge Charles Merrill Hough of New York. Two college presidents, Dr. John H. McCracken of LaFayette and Dr. Frank Aydelotte of Swarthmore, received the degree of doctor of letters. Dr. Clarence S. Fisher, director of the University of Pennsylvania's museum expeditions in Egypt and Palestine was also awarded the honorary degree of doctor of science.

R. H. Burton-Smith of Sioux City was the lecturer of the Academy of Science and Letters recently in the public library. His subject was "Life and Experiences of William R. Smith and other Pioneer Physicians." "Many doctors came to Sioux City in the early days," declared Mr. Burton-Smith. "Among the most prominent were Dr. A. M. Hunt, for whom Hunt school was named, Dr. Justice Townsend, Dr. J. J. Seville, Dr. Cook and Dr. W. R. Smith. Many of these came in 1856 and some moved away from Sioux City in later years."

On Monday evening, February 25, at the M. E. Church in this city, Dr. W. A. Rohlf will deliver his South American travelog, as the fourth number of the winter sociability course of that church.

Dr. Dean Lewis of Chicago addressed the Webster County Medical Society March 4.

Dr. W. T. Peters of Burt has received from a grateful patient 10,000,000 German marks.

Dr. W. C. Cummings of Ryan has located in Greely, following the death of Dr. Walter Kerensky.

Dr. and Mrs. E. E. Krider of Oelwein have recently returned from a two months' trip to Central America and a cruise in the West Indies.

Dr. Merrill M. Myers of Des Moines recently had as a guest Dr. J. Crichton Bramwell of Manchester, England. Dr. Bramwell is medical registrar of the Manchester Royal Infirmary, son of the famous Scotch physician Sir Byram Bramwell, clinical teacher of medicine of the University of Edinburgh. Dr. J. Crichton himself is one of a group of four physicians who are here in the U. S. as fellows of the British Medical Research Council. He is devoting his time to the study of heart disease especially as it relates to certain phases of electrocardiography and cardiac physiology.

MARRIAGES

Dr. Earl V. Coughlan of Manchester and Miss Elizabeth Buckler, formerly of Peoria, Illinois, were married at St. Ambrose Cathedral, Des Moines, March 4, 1924.

Dr. Henry W. Dahl of Des Moines and Miss Helen Anderson, also of Des Moines, were married March 25, 1924.

Dr. Harry R. Carson of the United States Veterans' Hospital at Knoxville, and Miss Lillian Walker, former assistant secretary of Associated Charities at Linden, were married at the bride's home in Linden, March 27.

OBITUARY

Dr. Henry Matthey died at his home in Davenport March 1, 1924 of pernicious anemia.

Dr. Matthey was born in Berleburg, Westphalia, Germany on October 20, 1852. He was always interested in medicine but he took up journalism until he was twenty-nine years of age, so that he might save money for his studies. When twenty-one years old he came to the United States with his parents, the family first settling in Milwaukee and later in 1876 coming to Davenport. The decedent was associated with his father on the *Sternen Banner*, a local weekly, for some time and he later went to Sterling where he successfully published a paper for two years. Having saved an adequate sum, he then went to Germany to study taking a course in medicine and surgery both at Leipzig and Wuerzburg universities. He was graduated in 1887 and came immediately to Davenport to practice. In 1889 he formed a partnership with his brother, Carl, the partnership continuing until the death of the latter when the firm of Matthey & Matthey was formed to include Dr. Matthey's nephew, Dr. Walter A. Matthey.

He was married to Miss Hilda Mueller on March 3, 1890, his bride being the daughter of Christian Mueller, pioneer lumberman and mill owner. To this union were born two children, Jessie and Carl, the former dying on January 17, 1914. The son, Carl, is following his father's footsteps in medicine and it was an oft-expressed hope of the senior that he would live to see his son graduate.

In 1914 at the outbreak of the World War, Dr. Matthey offered his services gratis to the American Red Cross, but because he had passed the age limit, he was not accepted. But the desire for a larger service burned within him and he then made an offer on the same basis to the German Red Cross and was accepted. He spent one year in Bavaria at the hospital maintained by Princess Arnulf and her son, Prince Henry of Bavaria. Later he was transferred to Braunsberg, East Prussia, where he was near the east battle front and where he was chief surgeon in a hospital of 1,400 beds. He was twice decorated in recognition of his services.

When the United States broke off diplomatic relations with Germany, Dr. Matthey gave up his post

and came back to this country. He then tendered his services to the Volunteer Medical Service Corps of the U. S. Army.

Dr. Matthey was a member of the staff of both Mercy and St. Luke's Hospitals, the Scott County Medical Society, the Iowa and Illinois Central District Medical Association, the Iowa State Medical Society, the American Medical Association. He was a trustee of the Davenport Academy of Sciences and a member of the Davenport Turner society.

The staff of Mercy Hospital has adopted the following resolutions in memoriam of Dr. Henry Matthey, who passed away March 1 after serving on the Mercy Hospital staff since 1889:

"Two years more than three score years and ten ago, was born whom this staff knew as Dr. Henry Matthey. In the scheme of an all-wise providence, death took him from our midst. As a member of this staff of Mercy Hospital, he has become a part of our past, but not without leaving a previous gift for our memory.

"As a member of this staff since 1889, he gave of his best to full and faithful service. For a long time he shouldered a large share of the welfare work for the poor of this county. As a member of the state board of health, he found a larger field to put into practice the century old ideals of our profession in a manner so truly in accordance with his own conception of the dignity of the practice of medicine.

"Whereas, upon these activities, so valuable to this community and this hospital, his death has placed a pause which is unchangeable; and

"Whereas, his passing brings to each one of us a keen and personal realization of loss to our profession; be it therefore

"Resolved, that this body of physicians make this expression of their faith and esteem for the departed a matter of record in the proceedings of this staff; and that a copy of this resolution with an extension of sincerest sympathy be transmitted to the family of the deceased."

Dr. H. W. Sigworth died at his home in Anamosa Saturday, March 29, after many months of failing health. Dr. Sigworth was born in Clarion county, Pennsylvania, February 25, 1837. He was a graduate of the University of Wisconsin at Madison, studied medicine and graduated from the Rush Medical College, Chicago, in 1863. He enlisted in the army and was a member of the Pennsylvania Infantry Regiment.

Coming to Iowa he located in Linn county where he practiced medicine fourteen years and then moved to Anamosa, and the next year entered into a partnership with his brother, Dr. M. P. Sigworth. In 1863 he was married to Miss Phoebe Bowen, daughter of T. S. Bowen of Green county, Wisconsin, and to them were born four sons and one daughter. After the death of Mrs. Sigworth he married Miss Jane Meade of Anamosa who survives him. One son, Dr. Dwight, died several years ago.

Dr. H. W. Sigworth, jr., of Waterloo, Dr. F. B. of Anamosa, D. B. Sigworth of Cedar Rapids and Mrs.

John Hull of Boone are still living. Dr. Sigworth held many local offices and was greatly respected by all who knew him. He was a loyal member of the G. A. R. In politics, a republican, in religion a Baptist.

Dr. Alvin B. Poore, formerly of Cedar Rapids, died at Canandaigua, New York, March 14, 1924. Dr. Poore was born at Fairfax, Vermont, July 9, 1853; came to Dubuque with his parents at an early age. After graduating from the Dubuque high school, he entered Hamilton College, New York, where he received his preliminary education. After graduating, he entered the University Medical College of New York, from which he also graduated.

Dr. Poore began practice at Dyersville, Iowa, and in 1882 located in Cedar Rapids where he gained a large and influential practice. At one time he was associated with Dr. George Skinner and with Dr. R. J. Kinney.

He was of pleasing personality and gained a large following among prominent people. About two years ago he received a serious automobile accident, from which he never recovered. Dr. Poore left Cedar Rapids about a year ago.

In 1880 he married Miss Mary L. Brooks of Syracuse, New York, who, with one son, survives him.

Dr. Walter Kerensky of Greely died at his home February 17, 1924. Dr. Kerensky graduated from the school of medicine of Iowa State University and practiced in Greely for a number of years.

Dr. Kerensky was born in Algona, September 18, 1887 and was only thirty-six years old when he died. In 1906 he graduated from the Algona high school. The following September he entered the State University at Iowa City, and in 1910 graduated from the medical college at the head of his class. He immediately entered the practice at Greely.

On the outbreak of war he entered the medical training school at Ft. Riley, Kansas, where he was commissioned first lieutenant. He went to France in the fall of 1917, and served with a machine gun unit. Besides serving in the battles of Chateau Thierry and the Argonne, he was on the St. Mihiel salient with the Second Division, and remained with the division till he was mustered out in March, 1919.

Dr. Harry J. Lambert of Dumont died at Mercy Hospital March 10, 1924 from appendicitis.

Dr. Lambert was born at Argyle, Wisconsin, in 1884, later moving with his parents to Alden, Iowa, where they lived until 1894, the family at that time moving to Cedar Falls. He received his preliminary education at the Teachers College High School, later entering Iowa State Teachers College, being graduated from this institution in 1904 as president of his class.

Following his graduation Dr. Lambert taught for several years at Manning, Traer and Charles City, Iowa, and Tulsa, Oklahoma. He then entered the school of medicine at the University of Illinois, where he was graduated in 1915. He went direct

from there to Dumont, Iowa, where he had been a practicing physician until the time of his death.

Besides his mother, Mrs. Mary W. Lambert, three brothers and two sisters survive. They are Prof. B. J. Lambert and Dr. J. J. Lambert, Iowa City; Dr. C. I. Lambert, New York City, and Miss Emma and Miss Grace at home.

During the late war he served on the Belgian front with the Canadian troops, after which he resumed practice, and about two years ago he located in Dumont, and up to the time of his illness was very successful.

Dr. William C. Tanner, sixty-two years old, formerly of Des Moines, died April 1 at Norfolk, Nebraska. Dr. Tanner was born and reared on a farm near Oskaloosa, Iowa. He attended Oskaloosa college and taught for several years before graduating from the University Medical College of Kansas City, Missouri. He located at Stuart, Iowa, in 1896 where he was city and county physician, and for the Rock Island railroad for several years. Later he moved to Des Moines where he was engaged in commercial work and was physician of the Neal Institute for three years.

During the war, he served in the government public health service and as chairman of the medical advisory board of the state of Nebraska.

Dr. T. W. Boyer, one of the oldest and best known citizens of this vicinity, died at his home in West Bonaparte at three-thirty o'clock, February 23 after an illness of several months duration.

He attended the Denmark academy and graduated from that institution. He studied medicine and was a practicing physician here for several years. He discontinued this practice and entered the mercantile business at which he was engaged for many years.

He sold his store several years ago and retired from business. Dr. Boyer was eighty-seven years of age at the time of his death.

Dr. William H. Newlon of Keokuk died at Berkeley, California, August 30, 1923. Dr. Newlon was a graduate of the College of Physicians and Surgeons and for many years was a prominent physician in Keokuk.

Dr. Henry Orlando Marcy died at his home in Cambridge, Massachusetts, January 1, 1924, at the age of eighty-six years. Dr. Marcy was born in Otis, June 23, 1837. Educated at Wilberham Academy and Amherst College. He received his medical degree at Harvard in 1864, honorary A. M. Amherst in 1870 and L.L.D. Wesleyan, 1887. Married Miss Sarah E. Wendell of Somersworth, N. H. in October, 1863. His son, H. O. Marcy, died in May, 1922.

Dr. Marcy served as assistant surgeon of 43rd Massachusetts Volunteers and Surgeon of 35th U. S. C. T. Medical Director of Florida, and later medical director on Sherman's staff in the Carolina cam-

paign. Resigned from the army in 1865; settled in practice in Cambridge, Massachusetts. Studied at University of Berlin, Edinburgh, and London, 1869-1870. He was Lister's first American student in London and on his return to America he wrote extensively and enthusiastically on absorbable sutures, especially kangaroo tendon. He was the author of several important books and many monographs and translated Ercolani's work: "The Reproductive Processes."

Dr. Marcy was president of the American Academy of Medicine in 1884, and president of the American Medical Association in 1892. He conducted a private hospital in Cambridge for nearly thirty years.

Dr. Marcy was a man of considerable wealth. He owned a large part of the land on which the Institute of Technology was built and had considerable holdings in Cambridge. He owned and lived for many years in a beautiful mansion on Commonwealth avenue, Boston.

Dr. Marcy was a man of great knowledge in medicine and surgery and much devoted to literature and art. Several years ago the writer had the privilege of taking dinner at Dr. Marcy's home on Commonwealth avenue, Boston, when he exhibited an oil painting valued at \$100,000, purchased in Italy, but for many years had occupied a place in a store room on account of the prejudice Mrs. Marcy had to pictures of women without clothing. On Mrs. Marcy's death, the painting found a place among Dr. Marcy's art collection.

Dr. Marcy was the founder of the American Association of Medical Editors and attended its meetings for nearly fifty-five years. He was a cultivated gentleman of courteous manners and contributed much to public affairs in Cambridge and Boston. His activities continued to the time of his death.

BOOK REVIEWS

DIAGNOSTIC METHODS

By Herbert Thomas Brooks, A.B., M.D., F.A.C.P., Professor of Clinical Medicine, College of Medical Evangelists, Los Angeles, California; Formerly Professor of Pathology, College of Medicine, University of Tennessee; Fourth Edition. Published by C. V. Mosby Company, St. Louis, Missouri, 1923.

This book would appear to be a short, very much condensed abstract of diagnostic methods, beginning with the examination of the patient verbally. This is followed by a general survey of the patient as to his attitude, expression, etc., and more detailed headings of the points to be noted concerning the alimentary canal and the abdomen, the cardiovascular system, etc.

The outline goes on with examination of sputum, urine, blood, etc., giving the technique of staining and examining smears, with finally a list of apparatus and reagents the author considers needed for a physician's laboratory.

The book constitutes what any student about to graduate in medicine should be able to construct for himself, but may be of use to those physicians who are obliged, some time after graduation, to take up the task of doing their own laboratory work.

The volume fails to come up to the standard of others published by the Mosby Company, in that the few cuts used are old and sketchy, and the printing abounds in lines which run up or down at the ends, or sag in the middle, and in words in which letters are staggered.

H. R. R.

DISEASES OF THE SKIN

By Frank Crozier Knowles, M.D., Professor Dermatology, Jefferson Medical College; Dermatologist to the Philadelphia General, The Presbyterian and Children's Hospitals, Philadelphia, Etc., Etc.; Second Edition; Thoroughly Revised, with 229 Illustrations and 14 Plates. Lea & Febiger, 1923; Price, \$6.50.

In the hands of the general practitioner, diseases of the skin are difficult of exact diagnosis and the treatment trying almost to the exhaustion of patience. Skin diseases are distressing to the patient, and owing to the fact that there are no specific agents to bring about a prompt cure in a large proportion of cases, the patient becomes impatient and is liable to go from one doctor to another in the hope of finding a certain remedy. If, however, the physician makes a careful study of the case and comes to understand the pathology and the etiology of the case and takes the patient into his confidence so as to secure a thorough cooperation, very satisfactory results may be accomplished.

The purpose of his book is to furnish the practitioner with the means of dealing with this troublesome subject and if the physician will make a diligent study of its contents, much of the difficulty will disappear.

The author in this second edition has brought skin diseases up to the latest knowledge of the subject and calls our attention to what may be accomplished by the x-ray and food tests in certain forms of intractable skin disease.

ALCOHOL AND PROHIBITION IN THEIR RELATION TO CIVILIZATION AND THE ART OF LIVING

By Victor G. Vecki, M.D., San Francisco, California. J. B. Lippincott Company. Price, \$2.00.

Doctor Vecki has given in his book an unprejudiced, comprehensive and clear exposition of the prohibition question, which is today, without doubt, the most vital question with which the country has to deal. The book should prove particularly welcome to the medical profession, many members of which, in their practice, have suffered inconvenience and hardship through the restrictions placed on the sale of alcoholic beverages for medicinal purposes.

Besides this, the author has shown the legitimate use as well as the abuse of alcoholic beverages, the desirability of temperance and the abuses in the interpretation of the enforcement of prohibition. Furthermore, and with the backing of facts, he shows what has been accomplished by prohibition so far, and who has been benefited by the drastic enforcement laws. In addition, the standpoint of the medical profession is made clear, a really hygienic manner of living outlined, and the way to the solution of distressing problems indicated.

The first chapter deals with alcoholic beverages in general and from there the author goes on to the discussion of the two sides of the alcohol question. Following this there are chapters on prohibition in relation to the constitution and in relation to personal liberty. Next there is shown what prohibition has so far accomplished in the United States, and who has been benefited by it. Beyond this, the interesting question as to whether prohibition can be enforced or not is gone into, followed by an exceedingly important chapter on prohibition as it affects the medical profession. There is next a chapter in which the author points out the possibilities of mitigating and even eliminating certain evils which have arisen through the drastic enforcement of prohibition laws, followed by one dealing with alcohol in relation to longevity. In the concluding chapter, "Kindness Versus Brutality," the author brings out the fact that the keynote of happiness is temperance in all things, and that temperance in prohibition is as equally desirable as temperance in drinking.

Contents: Introduction. Alcoholic Beverages. One Side of Alcohol. The Other Side of Alcohol. Prohibition and Our Constitution. Liberty and Prohibition. What Has Prohibition So Far Accomplished in United States? Who Has Been Benefited by Prohibition So Far. Can Prohibition Be Enforced? The Medical Profession and Prohibition. What Should Be Done. Longevity. Kindness Versus Brutality.

THE DIETARY OF HEALTH AND DISEASE

For Use of Dietitians, Nurses and Instructors in the Sciences that Pertain to Nutrition. By Gertrude I. Thomas, Instructor in Dietetics, University of Minnesota. Lea & Febiger, 1923. Price, \$2.00.

Questions relating to nutrition occupy a large place in home economics in schools and in the professional relations of the nurse and physicians. Without the cooperation of the dietitian, the practice of medicine loses much of its success.

The purpose of this book is to present an intelligent outline of the value of foods and their preparation. Special attention is given to preparation. The author shows how much of the value of foods may be lost or impaired by faulty methods. Many formulas are presented to illustrate how foods and drinks may be made palatable and contribute to their nutritive value.

THE MEDICAL CLINICS OF NORTH AMERICA

September, 1923. W. B. Saunders Co.

This, the Chicago number, contains a well selected group of medical papers introduced by a contribution by Dr. Isaac Abt on, The Nature and Treatment of Collapse in Infancy and Childhood. Dr. Milton M. Portis in an interesting clinic; among the subjects discussed is, Thrombosis of the Vessels of the Leg and of the Mesenteric Vessels. Dr. Walter W. Hamburger presents a paper on Acute Cardiac Psychosis; Analysis of the Toxic and Circulatory Factors in Five Cases of Acute Confusion.

Dr. Ralph C. Hamil presents a discussion and a clinic group of cases on Infantile Cerebral Palsies.

We offer this short list of cases as illustrating the excellent character of the contents of this number.

A MANUAL OF THE PRACTICE OF MEDICINE

By A. A. Stevens, M.D., Professor of Applied Therapeutics in the University of Pennsylvania. Eleventh Edition. Entirely Reset; 12 Mo. of 645 Pages, Illustrated. W. B. Saunders Company, 1923. Cloth, \$3.50, Net.

This popular manual has now reached its eleventh edition, a clear mark of appreciation in which this book is held by the medical profession. It is particularly useful to the medical student on account of the brevity of discussion of the various subjects in medicine and to the busy practitioner for the same reason.

THE AMERICAN JOURNAL OF ROENTGENOLOGY AND RADIUM THERAPY

Editor, Dr. A. C. Christie; Associate Editors, Dr. James T. Case, Dr. H. K. Pancoast and Dr. W. Duane. The Subscription Price Is \$10.00.

The official organ of the American Roentgen-Ray Society and the Radium Society appears in 1924 in enlarged form, the increased pages being given to more illustrations, more abstracts and more original articles.

The Journal will be published as formerly by Dr. Paul B. Hoeber, Incorporated, New York.

PHYSICAL EXAMINATION AND DIAGNOSTIC ANATOMY

By Charles B. Slade, M.D., Formerly Chief of Clinic of General Medicine, University and Bellevue Medical School; Third Edition; Thoroughly Revised; 12 Mo. of 179 Pages; Illustrated. W. B. Saunders Company, 1923. Price \$2.00 Net.

This interesting book is intended mainly for students in physical diagnosis in making out anatomical areas in physical examinations. Considering the

chest for example; there are surface markings; palpation and percussion; auscultation; heart and lungs. This method is extended to other organs.

The book cannot take the place of the larger works on physical diagnosis, but may with great advantage supplement them. The medical student, especially in his clinical studies, will find this little book very helpful.

HYGIENIC LABORATORY BULLETIN NO. 120

1. Experimental Production of Pellagra in Human Subjects by Means of Diet, By Joseph Goldenberger and G. A. Wheeler.
2. The Chemical Composition of The Rankin Farm Pellagra Producing Experimental Diet, by M. X. Sullivan and K. K. Jones.
3. Biological Study of a Diet Resembling The Rankin Farm Diet, by M. X. Sullivan.
4. Feeding Experiments with the Rankin Farm Pellagra Producing Experimental Diet, by M. X. Sullivan.

Government Printing Office, Washington, D. C.

NEW AND NON-OFFICIAL REMEDIES

In addition to the articles enumerated in our letter of December 1, the following have been accepted:

Cutter Laboratory:

Anti-Anthrax Serum for Human Use—Cutter.

Diphtheria Toxin—Antitoxin Mixture—Cutter.

Diphtheria Toxin for the Schick Test—Cutter.

Rabies Vaccine—Pasteur (Cutter).

Tetanus Antitoxin for Human Use (Concentrated)—Cutter.

E. R. Squibb and Sons.

Diphtheria Toxin—Antitoxin, 0.1L+.

Winthrop Chemical Company:

Elixir of Veronal.

In addition to the articles enumerated in our letter of December 29, 1923, the following have been accepted:

Abbott Laboratories:

Potassium Bismuth Tartrate—D. R. L.

Ampules Potassium Bismuth Tartrate with Butyn—D. R. L., 0.1 Gm.

Ampules Potassium Bismuth Tartrate with Butyn—D. R. L., 0.2 Gm.

Britt, Loeffler and Weil:

Loeflund's Malt Soup Stock (Dr. Keller's Formula).

Hynson, Westcott and Dunning:

Flumerin—H. W. and D.

Lederle Antitoxin Laboratories:

Corpus Luteum—Lederle.

Corpus Luteum Extract—Lederle.

Ovarian Residue—Lederle.

1 Per Cent. Silver Nitrate Solution—Lederle.

Whole Ovary—Lederle.

Parke, Davis and Co.:

Ergot Aseptic:

Ampules Ergot Aseptic 1 c.c.

Scarlet Red Sulphonate—P. D. and Co.

Scarlet Red Emulsion, 4 per cent.—P. D. and Co.

Scarlet Red Ointment, 5 per cent.—P. D. and Co.

Scarlet Red Ointment, 10 per cent.—P. D. and Co.

PROPAGANDA FOR REFORM

The Treatment of Syphilis—The general view is that neither mercury or arsphenamin positively cures in cases in which the disease has existed long enough to become well established as a systemic disease, but that they both tend to cure and that both are valuable in treatment. It is the general opinion of syphilologists that when chancres are seen that are unmistakable, these cases should be vigorously treated and that there is a good chance of aborting the disease at this time. If early cases are not treated until the Wassermann reaction has become positive, there is a difference of opinion as to treatment. There are syphilologists who believe that these early cases are better treated by mercury alone until the patient has had an opportunity to develop all the immunity of which he is capable. After the patient has established all the resistance of which he is capable, these syphilologists would treat with mercury and arsphenamin. It is becoming increasingly apparent that the advantages of the new method of treating syphilis in which arsphenamin plays the larger part, are by no means certain. The trend of the last few years has been in the direction of placing more reliance on mercury and the older methods in the treatment of syphilis. (Jour. A. M. A., April 21, 1923, p. 1167.)

Zonite—Zonite is advertised as a new and wonderful discovery based on the "Carrel-Dakin" solution. The propaganda is, in effect, a capitalization of the work of Carrel-Dakin and others. Chemically Zonite, after dilution with an equal quantity of water, is claimed to be essentially the same as Surgical Solution of Chlorinated Soda (Carrel-Dakin) of New and Non-official Remedies.

Zonite has been exploited to both physicians and the public. (Jour. A. M. A., April 7, 1923, p. 1024.)

Nephritin (Reed and Carnrick) was reported on by the Council on Pharmacy and Chemistry in 1907. The following is a summary of this report: The advertising claims for Nephritin are based on the theory that certain granules in the renal cells, called "grains of segregation" and claimed to have been observed microscopically, carry on the secretion of urinary constituents and that a deficiency of them is the cause of nephritis. While Renaut, who formulated the theory, recommended as a cure for nephritis the maceration of fresh kidneys in physiologic sodium chlorid solution, Reed and Carnrick urged objection to the maceration and explained that nephritis represents all the action of the maceration, but is fifty times as potent. Nephritin is stated to be "the grains of segregation from the cortex of the

pig's kidney, the renal connective tissue being eliminated." It appeared impossible that the microscopic structures claimed to be present in nephritin could be isolated as such from the connective tissues, and, on inquiry by the Council, no information on this point was to be had. Further, the firm presented no evidence for the claimed action of nephritin or for the claim that it was fifty times stronger than the maceration. (Jour. A. M. A., April 21, 1923, p. 1167.)

Herradora Specialties not Accepted for N. N. R.—

Early in 1922 the Scientific Chemical Co., New York City (Marcus Aurelio Herradora, M.D., President) requested the Council on Pharmacy and Chemistry to consider his intravenous preparations. The firm sent specimens of the following products "for Intravenous Use:" Herradora's Arsenic Compound Nos. 1 to 6, Herradora's Arsenic and Hypophosphites, Herradora's Arsenic and Iron Compound, Herradora's Calcium Compound, Herradora's Calcium-Sodium-Glycerophosphate, Herradora's Chlorids Compound, Herradora's Chlorids with Iron Compound, Herradora's Creosote Compound, Nos. 1 and 2, Herradora's Digitalin Compound, Herradora's Glycerophosphate-Iron and Nickel Compound, Herradora's Guaiacol Compound, Herradora's Iodids Compounds, Herradora's Hexamethylenamine and Guaiacol Compound, Herradora's Iron, Manganese and Nickel Compound, Herradora's Mercury Compound, Herradora's Quinine Compound, Nos. 1 and 2, Herradora's Sodium Iodid, Herradora's Sodium Iodid-Salicylate-Guaiacol Compound.

After examining the submitted evidence the Council concluded that the Herradora Specialties were inadmissible to New and Non-official Remedies for the following reasons:

1. The therapeutic claims advanced for them are unwarranted and exaggerated, and there is no evidence to warrant the intravenous administration of them.

2. With one exception ("Herradora's Sodium Iodid"), the preparations are mixtures of drugs, the administration of which is not in the interest of sound therapy, particularly when these preparations are intended for intravenous use.

3. Herradora's Sodium Iodid is marketed with unwarranted therapeutic claims.

4. With the exception of Herradora's Sodium Iodid, Calcium Compound, and Iodids Compound, all of the Herradora Specialties are claimed to contain ingredients, the identity and uniformity of which are not insured by their inclusion in the U. S. Pharmacopoeia, National Formulary, or New and Non-official Remedies.

The Council submitted its objections to these Herradora Specialties to the Scientific Chemical Co. to permit the firm to meet these objections so far as possible. However, advertising mailed in February, 1923, convinced the Council that the propaganda contained in the firm's advertising is detrimental to the rational practice of medicine and the public welfare. Therefore, it authorized publication of its report. (Jour. A. M. A., April 28, 1923, p. 1259.)

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No. 6

PRESIDENT'S ADDRESS*

OLIVER J. FAY, M.D., Des Moines

I need hardly tell you that I have been proud and happy to serve as your president and that I feel that I have been doubly honored in having been chosen to succeed Dr. James Taggart Priestley, the last representative from the Polk County Society to have been so distinguished. It is a score of years since Dr. Priestley addressed you as your president, and remembering this flight of time, I realize that in electing me to the presidency, you have sought to distinguish not so much the individual as the Polk County Medical Society, the largest county society in the state, which again this year has the honor of acting as your hosts.

I am in an embarrassing position in as much as this talk of mine, which should have been rather in the nature of an inaugural address comes instead as a sort of a funeral oration to mark my passing. The present custom of having the president address the society on the eve of his retirement from office deprives him of an opportunity to lay before you his plans and program for the year's work, and makes of his address a mere parting gesture. Though I am to sing my swan song tonight, I should like to sing of the medical profession of the present and of the future, for the ideals, the aspirations, the actualities of medicine are, after all, not of the past year, nor of the present year, nor of the year to come, but are, and will remain our chief concern throughout our lives, as they will be the chief concern of those generations of scientists that will come after us.

During the past few years there has been a tendency to speak in pessimistic vein of the future of medicine, to look with grave concern upon the apparent indifference of the public and the lawmakers to adequate medical legislation, the rise of this and that pracky and pathy, the trend of medicine towards so-called socialization. Though it cannot be denied that the public is

far more alive to questions of property rights, of better roads, of protection of livestock than it is to such minor issues as the safeguarding of public health and the conservation of human life, we must confess that we are in part responsible for this lack of intelligent appreciation of vital issues by the public. We have failed to take the public into our confidence, to educate it to an appreciation of its own grave responsibilities in safeguarding the health of the nation. When we have asked for revision of existing laws, for new legislation, we have made the grave error of allowing the public and the lawmakers to feel that it was in our own selfish interest that we approached them, that it was our own future that we sought to protect. The public must understand that we need no protection, that we ask no class legislation, that we serve not our own interests but theirs when we ask adequate legislation. The medical profession is not in danger. The United States government with its hundreds of thousands of employes, the life insurance companies that spend \$15,000,000 for medical examinations, the accident insurance companies with their far greater annual outlay for the care of the injured, all great business organizations in which large interests are at stake, insist upon the employment of the graduate of a medical college and of him only. This is the verdict of the men, of the companies, that are swayed not by propaganda, not by whims, but by the incontrovertible evidence of the balance sheets.

Nor is the wandering of the sick man into devious paths in search of healing a cause for concern in so far as the selfish interests of the physician alone are involved. Since the sick man who has been dabbling in cults and patlies almost invariably seeks the physician when his malady has assumed alarming proportions, it is evident that his dalliance will result in little if any ultimate pecuniary loss to the physician. The loss which the patient may sustain because of the failure to make an early diagnosis, whether that loss be reckoned in dollars and cents or in health units is a far graver matter. I can only repeat that it is not the medical profession, but the public that

*Delivered at the Seventy-Third Annual Session. Iowa State Medical Society, Des Moines, Iowa, May 8, 1924.

needs the protection of an adequate medical practice act. The medical profession is not concerned with the healing methods of any practitioner provided that practitioner has the training which enables him to judge of the safety and efficiency of these methods. The medical profession has no desire to dictate to any man whom he shall consult in the hour of physical need, but it does believe that our laws should protect the unwary by requiring that every licensed practitioner should meet the same requirements of thorough preparation, and that these requirements should be kept high. I would not have our own standards of long years of training lowered for I do not believe that these standards can be made less exacting without endangering the efficiency of the profession. And if these long years of training are the minimum requirement for the physician, it is only logical to assume that a lesser requirement for any school of healing constitutes a grave danger to the public.

During the past few years a lowering of these standards has been urged on the grounds that the great expenditure of time and money required kept too many men from entering the medical profession, and that as a result, many communities were without the services of a physician. Statistics disprove this contention. They demonstrate that America has 50 per cent more physicians in proportion to her population than has England, and that this preponderance is far greater when compared to the rest of the world. It is not because we as a country lack physicians that many communities are without medical service, but because our physicians are unequally distributed. While in outlying districts, the sick ask in vain for medical care, in our cities there are more than enough doctors wondering gloomily where next month's rent is to come from to supply their needs.

As a remedy, it has been suggested that two grades of medical men be trained; that the men who are to practice in our hospitals, who desire to specialize in some given field, who are to carry on research work, should be required to take the present long years of training while a much briefer course might be permitted in the case of men who are to practice in outlying communities. Leaving aside the question of how these men with abbreviated training are successfully to be banished to distant areas, I believe that the man who is practicing his profession in the wilderness, deprived of the aid of laboratory, of hospital, of colleagues, has at least as great need as have physicians in the city for the best possible training, and that the people of these remote and less densely populated regions have

the same need, the same desire for and the same right to adequate medical care as the inhabitants of centers of population.

The salvation of the individual community rests in its own hands. The supply and type of medical men available in any given locality rests with that locality. It will accomplish nothing by crying from the housetops that the old generation of self-sacrificing, heroic, devoted family physicians has passed, by accusing the generation of medical men that has followed them of being soft, selfish and greedy, by denouncing the physician of today for placing his own comfort, his own pocketbook, his own family above the needs of suffering humanity. When these communities awake to a realization that they cannot expect the doctor to evidence more interest in their physical welfare than they themselves evidence, that they cannot expect all the sacrifices to be on the part of the physician, then and then only can this problem of supplying rural districts with physicians be solved. The solution is to be sought, not in legislation, not in an increased number of physicians, but in the erection of community hospitals, the building and maintenance of good roads, the provision of adequate school and church facilities. The physician wants not only educational opportunities and a pleasant environment for his family, good roads to make it possible for him to attend enough patients to insure a fair income, but also the opportunity to do good work, to develop professionally—a more or less unselfish ambition, and one which can be realized only through adequate hospital and laboratory provisions.

Within the ranks of the medical profession itself, there is a growing realization and appreciation of the needs of the physicians who are practicing in smaller towns and in country districts. In the past, these men have too often lacked the opportunity and the satisfaction of keeping step with medical advances because it has been impossible for them to desert their posts of duty for even brief visits to clinical centers. Since Mohamet cannot go to the mountain, the mountain must be brought to Mohamet. The organization of county clinics now makes it possible for these men to keep in close touch with medical advances, to profit more fully from the large and varied clinical experience which comes to them in the course of their general practice. The further development of such clinics, their wider dissemination and their broader usefulness is one of the problems of the immediate future.

An even more important step in securing to our small towns and country districts efficient

medical care and to our physicians who practice in them the opportunities and advantages which have in the past drawn them into the over-filled field of city practice, is the provision of hospital facilities. During the past two decades, the hospitals of our cities have shown phenomenal growth, and are still scarcely able to meet the demands of an enlightened public that has come to a gradual appreciation of the benefits of hospitalization. The construction of hospitals outside the larger centers of population is a development of the past few years, and I believe that the next decade will witness unprecedented growth in this direction. Since a large number of physicians and the public which they serve are alike bound in greater or less degree to a given community, their needs can be best served by the widest possible development of local resources. Great centralized institutions we must always have for the care of those patients whose needs cannot be met in county hospitals, but these centralized institutions must not be allowed to grow at the expense of the equally important smaller institution. Since the revenue of the state represents the composite revenue of its many communities, a fair share of the state revenues may well be deflected from the support of centralized institutions to meet the needs of lesser community hospitals. These scattered institutions would make possible the saving of large sums of money now spent for the transportation of patients and their attendants from distant points; they would permit many people who are unwilling or unable to enter a distant institution to enjoy the added comfort and safety of hospital care; they would provide laboratory facilities and thus solve one of the many difficult problems of country practice; they would do far more towards providing adequate prenatal and maternity care than could any number of sporadic clinics; and, finally, they would give to the physicians of these communities the opportunity for professional growth through the use of laboratory and hospital, and would make possible their occasional absences for study at some medical center. Great centralized institutions may, and do give to the relatively small number of physicians associated with them a maximum opportunity for development; they make possible research work and development along highly specialized lines, and in so doing they further the general advancement of medicine. Smaller hospitals cannot and should not compete in these fields, but they play a no less vital part in modern medicine since it is given to them to bring the fruits of these medical advances within reach of the men on the firing line, the men in general practice. Such community

hospitals are not unobtainable ideals—they lie within the reach of each of you. Our laws provide for the erection of county hospitals by taxation at the will of the voters of each county. You could and would not urge the building of a hospital from public funds if the establishment of such an institution were primarily in your own interests. But the establishment of public health centers, the improvement of hospital facilities is primarily in the interest of the people, only secondarily in your own. It follows that the education of the public in this matter which so intimately concerns community health is your duty; you can approach the voter with a deep consciousness of fulfilling your duty towards him.

During the past few years, the oversteering of so-called specialization, the undervaluing of general practice has been an unfortunate tendency in medicine. We seem to have lost sight of the broad general experience which should form the foundation of any worth-while specialization. Our schools are inclined to turn out as specialists in this, that and the other narrow field an army of men who, beneath the shallow veneer of a bit of special training, have no firm basis of general knowledge, whose modicum of special learning obscures instead of illuminates the general field of medicine. The human body is, after all, not a composite of unrelated organs, but a complicated mechanism each part of which is closely related to, interdependent with all other structures. This same close relationship, this same interdependence must also exist within the profession. If the sick man must choose between them, he is far safer in the hands of the general practitioner of wide training and experience than in the hands of the specialist without such broad knowledge, with vision for only his own narrow field of activity.

A specter often conjured up to trouble the peace of mind of the medical world is the supposed menace of governmental control, the so-called socialization of medicine. Between the Scylla of lax and inadequate medical legislation, and the Charybdis of governmental control, the alarmists would have us believe that our profession is soon to be engulfed. Some years ago the passage of health insurance acts in England and the institution of regulations to which the British Medical Association had been violently and ineffectually opposed, gave rise to a forecast of similar legislation in our own country, and the general adoption of compensation insurance acts by our states was considered an entering wedge, the first step in a dangerous direction. In reality, it was not the British government that defeated the medical profession of the country—its defeat was

brought about by traitors within its own ranks, by the agreement of a large number of panel physicians to the unfavorable terms imposed by the government. Within the past few weeks a similar issue has again been before the profession in England, and the British government was forced to yield to the conditions imposed by the British Medical Association—not because the government is weaker now than it was a few years ago, but because the medical profession had learned its lesson—this time it presented a solid and, therefore, an invulnerable front.

Personally, I believe that we have nothing to fear from governmental interference and control, from the so-called socialization of medicine so long as we play fair with the public, so long as we present a united front. The abuses and wrongs which exist within our profession are ours to correct; it is for us to maintain our high professional standards, to strive for loyalty and solidarity within our ranks; it is for us to give to the public the knowledge which will enable it to discriminate between the real and the false, to be guided by intelligence instead of by superstition; it is for us to curb and direct the well-intentioned but too often ill-advised social legislation, conceived in the brain of the lay theorist and passed by the catch-vote legislator as an inconsequential sop thrown to the public in lieu of vital measures which he deems politically inexpedient. Such legislation may be and often is based upon some real need, but the solution of the problem offered by it has for the most part been ill-considered, based upon faulty or even upon dangerous principles. I have a growing conviction that the Shepard-Towner law belongs in this category. Federal control of public health measures, in so far as these are of inter-state and national importance, may well be feasible, provided always that this federal control be vested in a competent and adequate department—under a department of public health, let us say, and not in a bureau of the treasury department, making the matter of the public health of the nation a mere caudal appendage to its pocketbook.

The usurpation by the federal government of health tasks which should be delegated to the several states is not only subversive of the principles of democratic government, but affords at best only an expensive and ineffective means of obtaining the desired results. Salvation to be of lasting value must come from within; salvation from without is always followed by backsliding. The clinic for any given community, which has been arranged at a distant center with little or no attempt to obtain the co-operation of the medical profession of that community, is foredoomed to

failure, and its actual cost will be out of all proportion to its accomplishments. The clinic which is arranged by the profession of the community, which is an expression of their active desire for professional and community advancement, is from its inception assured of the systematic follow-up work which is the one worth-while fruit of its brief and hectic blossoming. I can think of nothing more futile than the expenditure of millions in spasmodic attempts to educate the public, the while we throw down the bars and expose this same public to the ministrations and half-baked teachings of the vicious quack and the ignorant mountebank. Why broadcast the seeds of ignorance and superstition, and then try to stay the scourge by here and there up-rooting a single weed?

A dawning realization of the growing needs of the profession of Iowa was one reason for organizing the work of the Field Activities Committee, and under the enthusiastic leadership of Dr. Sampson this committee has done pioneer work in the intangible but all-important field of public education. The large possibilities which have been opened up seem to call for more effective, more extensive organization in the future. Under the present plan, the State Medical Society has provided the "sinews of war," but the direction of the campaign has been entrusted to a committee in the selection of which the State Board of Health, the State University of Iowa, the Iowa Tuberculosis Association, and the Iowa Conference of Social Work as well as the State Medical Society have had a voice. I believe that it is eminently desirable that the members of our Society, both as individuals and as an organization, should cooperate to the fullest possible extent with each of the organizations now represented on this committee, and I feel that the Society has been exceptionally fortunate in the personnel of this committee. It has become increasingly apparent that the field work of our Society must be broadened, that the campaign of medical education must be carried on far more intensively and effectively, that much work must be undertaken which is primarily of interest to the Society and only remotely so to the organizations now associated with it. A re-organization of the committee seems accordingly to have become desirable—a re-organization which will place it directly under the control of the State Society.

Dr. Sampson has accomplished his work at the sacrifice of his own interests, and as the scope of the field work is broadened, it will become most unfair to ask any one member of the Society to sacrifice his professional interests for

the benefit of the Society as a whole. A solution of this problem, however, lies close at hand. The work of a field secretary may well be done by a man who is in full sympathy with the aims and interests of the medical profession, but whose own technical training has been along the lines of organization and publicity work and of journalism. Such a man, working under the direction of the Field Activities Committee should co-operate with the other organizations interested in the general field work; he should respond to the invitation of county and local societies for aid in organization and rehabilitation; he should arrange to supply speakers for medical and lay meetings when desired, and should aid in arranging for county clinics at the request of and in co-operation with the county medical societies.

With the ever-increasing demands of the work of this Society, the position of secretary has called for great sacrifices from the man who accepts it. The scientific and society work which devolves upon the secretary is a duty and a privilege of his office, but there have been added to this essential work innumerable lesser tasks of a routine and business character, which consume his time and lessen his efficiency. A great majority of these tasks might be delegated to a field secretary, for they might be performed by a layman with less loss of time and energy than by a doctor. The soliciting of advertising for the journal is a single example, and to it might be added many other tasks incident to the publication of the journal but not connected with its editorial policy. The field secretary might work with, and thus materially lessen the burdens now laid upon the secretary of the Society and the editor of the Journal without in any way trespassing upon their official preserves.

During the first, probationary year, the work of the field secretary might be financed from the available funds of the Society. If the development of the work later justified its extension, the question of special provisions for its financing would rest with the House of Delegates. Money devoted to this purpose should not be considered a donation or contribution to the Society; it is rather an investment, based on sound business judgment, if we may draw our conclusions from the experience of many other organizations of national importance. We cheerfully part with \$20 or \$25 a year for membership in some Chamber of Commerce or like organization which, in the last analysis, functions primarily in the interests of business and only secondarily in those

of our profession. Why not devote to our own interests and advancement some small part of the fine spirit and the gold which we as a profession have so unstintingly given to every cause but our own?

I would not be misunderstood: I am not advocating any campaign of cheap publicity, but one of broader education; I am not defending commercialism, but pleading for just enough of sane business methods in our altruistic profession to make possible the broadest humanitarianism. I would have our membership extended until every ethical physician in the state is numbered within our ranks, instead of our present ratio of two out of three of our licensed physicians; I would have our profession so closely united that we might present a solid and invincible front to any threatened curtailment of our professional liberty and advancement. I would have the citizens of every community within the state so enlightened, so well-educated in matters pertaining to public health that no legislator representing them would venture to imperil their interests by giving his support to a medical practice act such as has recently been before our legislature.

And these things can be, will be realities if you and I will it. The future of medicine in this state, in this country is in our hands. We need vision, determination, solidarity, and the future is ours. In the science of medicine, we have achieved the incredible within the span of a short half century, we are entering an era of even greater achievements—we cannot foresee, we can only dream of the conquests of the next fifty years. It is only in the art of medicine that we have failed, in human contacts that we have fallen short. Such failure has been due to virtue, rather than to vice—we have been so wholeheartedly dedicated to our profession that we have been blind to lesser, selfish interests. But we can no longer ignore the need of the public for education and protection, for by virtue of our profession and its humanitarianism, we are in the fullest sense our brothers' keeper. It is for us to set our house in order, ourselves correct those evil practices that have here and there cast reflection upon our profession. It is for us to give freely to the public the knowledge that is ours through the unselfish devotion to science of our medical progenitors. It is for us to forget all petty, personal differences, all apathy and disinclination, and in the consciousness of a great common cause, to carry on.

OSTEOMYELITIS SECONDARY TO FOCI
IN THE SKIN*

CLARENCE E. LYNN, M.D., Dubuque

During the past decade we have obtained a great deal of knowledge of focal infections. This knowledge has given us new understandings of the habits of bacteria within the body and also caused a revision of our treatment of many conditions which previously were only vaguely understood. The result is that when a patient presents himself with a remote infectious lesion it is the custom of the day to look for and, if possible, remove the cause, namely the primary focus. There is much literature at hand to show that in the majority of cases the original atrium of infection is in the head and neck and due to the streptococcus. Naturally then we begin our examination with close scrutiny of the tonsils, teeth and sinuses. If we find dull red pillars with cheesy material in the crypts of the tonsils, or suspicious x-ray shadows indicating alveolar abscesses, or signs of possible sinusitis we are apt to conclude, even without a definite history, that we have found the cause of our patient's arthritis, myositis, pyelitis or what not. With this routine mistakes are bound to occur and the patient put to unnecessary suffering and expense without relief from the original cause of the trouble about which he consulted us. Of course it may be better in this instance to err on the side of commission rather than omission but, it is well nevertheless, to be on the look-out for other possible sources of infection.

The skin is a place frequently overlooked as harboring lesions from which microorganisms enter the blood or lymph channels only to cause serious trouble in other parts of the body. It is probably the one "organ" which is most constantly in contact with bacteria and which, under normal conditions, usually resists bacterial invasion better than any other. Cultures from the skin of healthy persons show a great number of staphylococci—partly saprophytic and partly truly pathogenic. They are frequently found (as pointed out by Welch)¹ even in the depths of the skin—probably in sebaceous glands and clefts about the roots of hairs. With this flora ever present it is easy to understand how an abrasion, or even constant rubbing that does not erode the skin but produces localized lowered resistance, offers an opportunity for the beginning of a furuncle or similar lesion. For this to happen depends, in all probability, upon a lowered resistance of the patient against the staphylococcus.

This is a feature to which we are likely to give little consideration and as a result look upon an abscess of the skin as a superficial and not dangerous lesion that can easily be opened and the pus drained away from the body. We seldom visualize the histology of the process; i. e., to picture in our mind the possibility of bacterial emboli from the lesion entering the capillaries and floating away in the blood stream to produce a septic infarct in bone, muscle, kidney, spleen or other tissue.

That skin foci are important as a source of hematogenous staphylococcus lesions is a well established fact. A patient, especially in early life (perhaps has not developed immunity), who acquires an infected skin lesion may easily be the victim of a serious secondary infection in other structures of the body due to a bacteremia. This is well illustrated in a recent article by Phemister² in which he reports nineteen cases from the services of the Presbyterian Hospital (Chicago). He states that in all instances the staphylococcus, usually the aureus, was the only organism in cultures from the pus obtained at operation. In a few cases it was obtained in cultures from the skin focus, but usually the skin lesion was healed before the patient entered the hospital. The only definite focus of infection for entrance of the organism was in the skin, and there was no history of a recent focus in another region, except in one case.

Because it is in producing destructive lesions in the bones that the staphylococcus plays one of its most characteristic roles I am going to report a case of osteomyelitis of the vertebra following a carbuncle.

Case Report

A well-developed but not healthy looking middle aged man came to me in 1921 for treatment of a carbuncle on the back of his neck. Glucose tolerance test, urine and blood Wassermann negative. Teeth in good repair; x-ray showed no apical abscesses. Tonsils out (removed one year ago). The patient gave a history of having had furuncles on the neck and shoulders at different times and attributed them to fatigue from over-work and insufficient sleep. Two weeks after the carbuncle had cleared up with local treatment he returned on account of acute pain in the left lumbar region. Said he had wrenched his back forty-eight hours previously when trying to move a heavy iron grate on a locomotive engine. Examination revealed marked tenderness about two inches to the left of the lumbar spine; no swelling or discoloration; temperature 99 F. I ordered hot applications and absolute rest in bed. The pain persisted and the next morning a distinct swelling without redness or fluctuation was evident. The temperature was 102 F. and the W. B. C. was 17,000.

*Presented before the Seventy-Second Annual Session, Iowa State Medical Society, Ottumwa, Iowa, May 9, 10, 11, 1923.

X-ray of the lumbar vertebrae at this time showed no pathology. As his condition grew progressively worse that same day we made an incision at the site of the swelling and found a little sero-purulent fluid from the depth of the wound in the region of the vertebra. Culture showed a pure growth of staphylococcus aureus. It was not until ten days later that the x-ray showed signs of extensive osteomyelitis of the body of the fourth lumbar vertebra. Apparently the drainage was not adequate posteriorly as one month later he developed a right psoas abscess from which we found staphylococcus aureus in pure culture. There was marked improvement after the psoas abscess ceased draining; the lumbar wound healed and in six months he was able to walk about. Shortly after this time he complained of pain in each tibia; there was slight swelling which disappeared with rest in bed. This gave no further trouble until three weeks ago when signs of inflammation appeared and on opening found a sub-periosteal abscess on each leg. The pus obtained at operation showed staphylococcus aureus in pure culture. Autogenous vaccine was made and the patient showed a marked local as well as a general reaction to small dose given.

ANIMAL EXPERIMENTS

Different authorities report that the introduction of virulent staphylococci into animals produce lesions similar to those found in man. It is also said that traumatism to a bone, as for example the fracture of a rib, immediately preceding the injection, leads to the formation of an abscess at that point. This is explained on the basis of a local lowered resistance or by the interruption of the flow of blood through the vessels thus allowing the bacteria to be caught there.

I injected (intravenously) into three young rabbits fresh cultures from the sub-periosteal abscesses of my patient. The rabbit receiving the largest dose died in thirty-six hours apparently from septicæmia. The rabbit receiving the second largest dose died in seventy-two hours and necropsy showed multiple abscesses. The rabbit receiving the smallest dose is alive at the end of six days and has a fluctuating swelling in the region of the left hip joint. This animal moves about but uses left hind extremity very little. (Rabbit to be shown at meeting and autopsied afterwards.)

SUMMARY

In the absence of any other focus of infection it seems reasonable to conclude that the osteomyelitis of the patient cited was the result of bacterial invasion from the carbuncle. The period of latency from the time the carbuncle had apparently healed until the bone lesion appeared two weeks later is typical of cases reported by others. The x-ray will not show changes of acute

osteomyelitis at the onset of the disease (except in mastoid and there due to pneumatic cells). The clinical findings are more reliable at this stage. The roentgenologist cannot, as a rule, help you much before six to ten days. The sub-periosteal abscesses over each tibia might have been produced by trauma to that region when patient's legs were strapped on the operating table. It is well to treat a patient who gives a history of recurring skin lesions (furuncles, carbuncles, etc.) with an autogenous vaccine with the hope of raising his resistance against the staphylococcus.

REFERENCES

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Discussion

Dr. William Jepson, Sioux City—We are all convinced that eternal vigilance is the price we must pay for safety. In few pathological conditions is this more true than of acute osteomyelitis, probably due to the fact that we are prone to overlook the possibility of the existence of this condition. I say we, for were we to divide the men who practice our profession into those of surgery and those of medicine, we would have to say that these cases largely were first seen by internists who by reason of their daily activities would tend to give a different interpretation to the symptoms present than would the surgeon, as was well pointed out by Dr. Harris in his remarks on the possible errors in diagnosis. The symptoms tend to mislead the general physician and pediatricist unless he is constantly vigilant and has in mind this condition. During the first twenty-four hours or so, or at least at the first visit, he is prone to consider the condition as possibly a case of rheumatism, la grippe, or what not, because every ill to which the human body is subject has been confounded with osteomyelitis. There are some reasons for that aside from those mentioned. What are they? Acute osteomyelitis is of course a local inflammatory process in the epiphyseo-diaphyseal cartilage because of the histological character of the circulation in growing bone at this site, and the carrying into this area pathogenic organisms, inaugurating those phenomena which we classify under the head of inflammation. But in the early stages of osteomyelitis only one of the local phenomena of inflammation is recognizable, namely, pain. Redness, heat and swelling are absent, owing to the depth of the bone involved. When these make their appearance the condition has already passed beyond the bone; in other words, the resulting morphological elements of the inflammation, namely, pus, has already escaped from the medullary cavity through the periosteum into the surrounding soft structures, and has possibly subjected the bone to complete death through stripping the periosteum from the bone, or, if not completely so, the process at least extends up the member and ultimately we may have a large se-

questrum. It is unquestionably important, as has been pointed out by Dr. Stokes, that we recognize this condition early, because it is truly a surgical condition if any condition ever is so. I say surgical—it is a surgical condition at least in the sense that the necessary remedial measure is mechanical and consists in affording adequate escape for the inflammatory products, and this before the medullary cavity has been extensively involved or the periosteum stripped off. And that should be done where? Not, as a rule, along the shaft of the bone, but primarily at the epiphysis where the infection takes place. I will admit that some of these cases have gotten along without an early operation, but that is only after the pus, following days of effort (during which time death from septicemia may readily occur), has worked its way out, infiltrated the soft tissues and caused a large boggy mass in the limb which any one would recognize and open. But we should have prevented this complication by early operation and evacuation of the pus. These two papers are of extreme value to us, in that they call our attention to the physiological predisposition which exists up to the time the bones have ceased growth in the twenty-first year, and which we should always keep in mind; although, as stated, in the tenth to the fourteenth year, perhaps earlier or later, the long bones are especially prone to the disease; namely, the femur at the lower end, next the upper end of the tibia, the upper end of the humerus, and then possibly the upper end of the femur. Of course, any other of the long bones and some of the short ones may become involved, but this is quite rare. Dr. Lynn referred to the fact that the staphylococcus aureus is practically always found present in this condition. However, let us remember that any pathogenic microorganism finding its way into the circulation may produce an acute osteomyelitis, but most frequently it is the staphylococcus aureus, perhaps mixed with the streptococcus, the staphylococcus albus, and so on. But the important point is that the condition most frequently is due to staphylococcal infection. Many investigators have suspected that the skin is responsible, in fact a German investigator has said that the children in country homes are more predisposed to the disease than are children in the city. This was supposed to be due to the fact that there was not the same degree of cleanliness in the case of country children. Whether or not that is so, it is true that if the skin harbors a staphylococcal germ at the site of a furuncle or carbuncle or larger collection of pus, osteomyelitis may develop. What has happened? A bit of an infected thrombus is forced into the blood stream, circulates through the body and is caught in this particular area. I point this out for the simple reason that I have so often seen medical men make a small incision in a boil and then proceed to compress the area in an attempt to express the pus. To compress an area that is the seat of an infection is I believe wrong. We of course recognize also that the individual staphylococcus which gains access to the body and infects the blood stream may similarly give rise to

this characteristic condition, occluding the small capillaries and leading to local infection. If I may emphasize any points in this discussion they would be the following: By all means let us constantly be on our guard as to the possibility of an osteomyelitis existing in children that suddenly become ill with high temperature, lymphocytosis, and discomfort in a limb, not necessarily pain, but the child is indisposed to use it. And when operating we should be sure that the opening is carried down to the seat of the pus. When the pus is reached and offered ample opening for exit, whether we should do any further extensive operation must be left with the individual operator. Generally I should say that to leave the periosteum open and allow the pus to escape is sufficient. Just one more point: When you do this, that is not, I believe, the time to remove the sequestrum. That should be left to a future time. In many cases it is not large, it will be disintegrated and carried away and its place taken by a new growth, therefore an extensive operation may often be obviated.

Dr. Howard L. Beye, Iowa City—Of the cases which come into the University Hospital approximately 80 per cent have been diagnosed during the acute period as acute rheumatic fever. There are very definite reasons why this diagnosis is made. In the first place the pain during the acute stage is usually referred to the neighboring joint, therefore the attention of physicians and parents is called to the joint rather than to the bone. Second, the child refuses to use the joint because he is afraid of pain. Consequently there is loss of function of the joint to which pain is referred. Third, there will be an early effusion into that joint, which oftentimes is one of the factors leading to wrong diagnosis. This effusion is in the nature of a protective effusion similar to that found in the abdomen in an attack of acute appendicitis, even though the appendix is entirely walled off and there is no infection in the peritoneum; in other words, the effusion from a serous surface incident to an inflammatory reaction. This effusion may come on in the first ten, twelve or fifteen hours after infection of the bone has taken place. Therefore those factors draw the attention of the physician away from the involved bone and to the joint. Fourth, of the cases of osteomyelitis which we get in the University Hospital, approximately 40 per cent are multiple; that is, more than one bone is involved. Sometimes multiple bone involvement will take place after the initial bone is attacked, and this confuses the picture and leads one to diagnose acute rheumatic fever. The points against this diagnosis are: There is no redness of the joint; that is, the joint which the patient complains of as being painful is not red; and on careful examination it is proven to be not tender. The tenderness is definitely localized over the bone at the point of involvement. However, it must be said that such localization of tenderness is oftentimes a very difficult thing to do because so frequently the patient is screaming with pain, the parents cannot cooperate because the patient is having so much pain, and consequently it is very diffi-

cult to make the adequate examination essential to arriving at correct conclusions. However, as Dr. Jepson has emphasized so strongly, one should always suspect that the condition is osteomyelitis and adopt measures to combat it. Another point should be emphasized, and that is that the x-ray is of no value whatsoever in the diagnosis of acute osteomyelitis at the time when the diagnosis must be made and treatment instituted. The gross pathological changes which take place in the bone which will be shown in the x-ray picture ordinarily, would not appear during the first week of the disease, sometimes not until ten days have elapsed and at times not until considerably later than that. The diagnosis should be arrived at within the first twenty-four hours if damage to the bone is to be limited, and in that period the x-ray is of no value.

Dr. S. A. Spilman, Ottumwa—It seems to me that from the standpoint of the average practitioner this is one of the most important subjects to be discussed. It is important not only to save the lives of children, but to save their limbs as well. It is so common to call these cases rheumatism until the time has passed when they can be saved. Very recently I was called upon to operate upon a case in which on opening the bone with the bone drill the pus popped out. There is one other danger connected with the failure to diagnose these cases, and not only are our doctors to blame, but we have a class of practitioners who frequently treat these cases simply because they are bone specialists; I refer to osteopaths and chiropractors, and if they have them three or four days what are we to expect? I do not know how this is to be prevented because our legislatures have given each of them a special board. But I do believe the time has come when every doctor should look with suspicion on an infection with a great deal of pain in a child's leg or arm of a few hours duration as being highly indicative of a case of osteomyelitis.

Dr. Frank M. Fuller, Keokuk—The only thing that impels me to discuss this question here is this: I have been coming to the meetings of this Society, for how many years, I do not want to say, and have been going to a number of other society meetings, and all the while we hear about osteomyelitis. Every time we attend a meeting and hear the discussion of this surgical subject, osteomyelitis, the essayist and the leader of discussion tell us that a large percentage of these cases are originally diagnosed as acute rheumatic fever. Why is this so? For fifteen or twenty years, over and over and over again in this body of intelligent men, I have heard this question repeated: Why is it that a larger percentage of these cases are not recognized as osteomyelitis instead of being diagnosed as acute rheumatic fever? The probable reason is that the men who most frequently make the diagnosis of acute rheumatic fever are not the men who are coming here and listening to this discussion year after year. I do wish that we could have emphasized in our Journal, in our county societies, in some way, the fact that the simple thing which is taking the lives and taking the legs of chil-

dren, is due to a mistake that has very little excuse for its basis. And I do hope that the men of this Society who go out from here today will carry back to their county societies and publications and through all the means of medical education they have at their disposal, the fact that this mistake is being made over and over again simply because men will not learn after years of such experience.

Dr. Donald Macrae, Jr., Council Bluffs—It seems to me that these cases are difficult to diagnose even for the man who has attended the meetings of medical societies for a number of years. I would like to cite one case that occurred in our community about a year ago. A girl about fifteen years of age had a series of staphylococcic boils on her neck and in two weeks developed a sudden acute pain in her knee, temperature 104 with rapid pulse. Quite a prominent physician in our town had her taken to the hospital, an x-ray was made, but nothing was seen, as emphasized here and which I think is worthy of emphasizing again. In early osteomyelitis the x-ray has no diagnostic value. Leucocytosis, 8,000. The patient was taken home in the belief that the trouble could not be osteomyelitis. That night she relapsed into a semi-conscious condition and her pain seemed to cease, that is she did not complain although she continued to have this high temperature and semidelirium. Two eminent physicians from Omaha spent two days on this case along with our own physician and they finally decided that the condition was pneumonia, they thought they could detect evidences of this disease in the lower lobe of the left lung. The next day the patient was going down, down, and they called in a surgeon who made a provisional diagnosis of acute osteomyelitis of the upper end of the tibia. The patient did not complain of pain, but from the first had never moved this leg. The mere touching of the leg caused an outcry. By going back over the history and examination a provisional diagnosis of osteomyelitis was made. There were three to one until the following day when tenderness and swelling were present. The patient died within six hours. We must not absolutely depend upon the leucocytosis, we must not depend upon the x-ray. The symptom of leucocytosis may help, but in these cases as in every other condition the diagnosis depends upon careful clinical examination. So we must not forget that we still have cases which are confounded with other conditions by eminent men who are called in consultation. If the surgeon could be called early in these cases and his advice were accepted, I am satisfied we would have little trouble with this condition.

Dr. Otto Svebakken, Decorah—I wish to cite one case, because I, too, have to confess that after attending the Iowa State Medical Society meetings I made one of those grievous mistakes. I was called to see a boy about eight years old and found him with a high fever, many points of tenderness and swelling, one point over the right shoulder, one over the left ankle, over the left knee and the right knee. These various points were very tender and soon de-

veloped some swelling and edema. I, of course, diagnosed the condition inflammatory rheumatism and treated it accordingly, without any results. I also had osteomyelitis in mind and inquired carefully as to any point of focal infection, which on examination I could not find. But the later developments proved to me my mistake, when we had to open up and remove a medullary abscess in the lower part of the tibia, remove half the kneecap of the same leg, open up the lower end of the femur and also a bone abscess in the distal end of the right clavicle. I realize that we do not know as much in diagnosis as we should, but to me some of those conditions are very confusing, as was this case particularly, and there are times when our first diagnoses may be mistaken, but the point of being cautious and always bearing osteomyelitis in mind in our rheumatism cases is well taken.

Dr. Charles J. Rowan, Iowa City—There is one point which I think contributes to the delay in recognizing osteomyelitis, or at least in taking measures to cure it, and that is the fear of exploring the bone where osteomyelitis is suspected and finding no pus or osteomyelitis. I do not think that should be advanced to excuse us. I confess to drilling holes in bone several times in cases in which I had made a diagnosis of osteomyelitis and failing to find osteomyelitis, but I never regretted having explored the bone. In some cases it was too early, for pus formation, but the drill hole relieved the tension and when pus did form it appeared and drained itself and did not destroy bone because the tension was removed early. Then too, in some cases the patient never gave evidence of having had osteomyelitis, and the bone was drained unnecessarily. But I had no occasion to regret that, because it has never harmed the patient. On the other hand I have seen hundreds of cases where very great harm was done by failing to recognize the condition in time to prevent destruction of bone.

Dr. Stokes—I wish to ask Dr. Lynn a question: In listening to his paper I did not quite understand whether or not by the injection of his rabbits he got bone infection and osteomyelitis. If he did, that is a very important step. If in our experimental work we can take infectious material from the bone of an osteomyelitic case and transfer it in some way so we can induce osteomyelitis in animals, we will then be able to come to some definite conclusions. I wish to thank the members for their kindness to me in this discussion. I suppose as long as men live they will make mistakes, but I do think one of the chief desideratum is to get into the concept of the doctor that wherever you have pain and temperature you have pus. If we once arrive at that conception and start looking for pus as the cause of the trouble and not think it is a constipated bowel, or some other indefinite thing, we will get somewhere. Whenever there is pain in a bone and temperature there is pus, and the most normal and natural point to look for it is the point of tenderness in the bone. Dr. Rowan said a good deal when he referred to the fact that we

are afraid to open the bone; but there is no danger in opening a bone, no harm is done, and it is better to open several bones and not get pus than to leave one bone which contains pus without opening.

Dr. Lynn—I fully expected the question about the rabbit and for that reason brought the animal along that we might autopsy it in the presence of interested persons. I injected the staphylococci from my patient not with the idea of proving anything, but rather as a matter of interest to see what pathological changes would take place in the young rabbits.

Note—Autopsy showed collection of pus (intracapsular) about hip joint. No proof of primary bony involvement.

SICK HEADACHE: THE RELATION OF MIGRAINE TO GASTROINTESTINAL DIAGNOSIS AND TREATMENT*

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To illustrate the relationship which headache bears to the diagnosis of gastrointestinal disorders I have prepared abstracts from the case histories of nine patients. Migraine is a potent cause of impaired efficiency, whether considered from the degree of disability it produces, or from the frequency with which it occurs. In order to ascertain the relative frequency with which migraine occurs, a cross section of the histories of patients registering in the first twelve days of June, 1922, was examined. In this series, forty-three cases of migraine, forty cases of peptic ulcer, and ninety-three cases of disease of the gall-bladder were found. I shall not discuss the theories of the causation of migraine, or the numerous remedies which are believed to have a specific influence on the disease. To say that a specific cause, or a cure for the disease is not known, does not constitute a criticism of the voluminous literature on the subject. However, there is need for further investigation of the conditions known as headache and migraine. A list of comprehensive articles dealing with these disorders is appended.

REPORT OF CASES

Case 1 (A393805)—Miss N. L. B., aged forty-eight years, came to the Clinic June 8, 1922, because of stomach trouble, which had begun when she was eight or nine years old. Attacks had come on twice, and sometimes three times a week, lasting from one to three days. The onset was usually marked by "flashing" before the eyes; then headache in the temples, spreading to the back of the neck, and vomiting, which sometimes relieved, and sometimes increased

*Read before the Hardin County Medical Society, Alden, Iowa, July 18, 1923.

the headache. For about a year the headaches and vomiting spells had been more frequent and more severe. The mother of the patient had suffered from the same type of headaches. The patient had been habitually constipated, although occasionally diarrhea preceded a spell. Ice bags applied to the head afforded the most relief. Spectacles were worn because of presbyopia. Menstruation had been irregular with a scanty flow during the last year. The appetite was poor. Raw apples and coarse vegetables produced flatulence. Several unlocalized attacks of abdominal colic had occurred, none was treated by opiates, and residual soreness did not follow.

Examination—The patient weighed 110 pounds; her weight had fluctuated markedly. Fractional test meals on two occasions demonstrated absence of free hydrochloric acid, but roentgenograms of the stomach did not reveal abnormality. The systolic blood-pressure was 160; the diastolic, 80. The basal metabolic rate was -9. The retinal arteries were somewhat irregular in caliber. This case was interpreted as fairly typical of migraine.

Discussion—Women suffering from migraine are particularly apt to present themselves for examination at the climacteric, (1) because of an exacerbation of the disease at that time; (2) because of a lowered threshold of sensitiveness which accompanies the menopause, and (3) because of a more or less widespread impression that something is likely to go wrong at this time. It is of interest to note that the refractive error in this case was due to advancing years, and could not fairly be placed in causal relation to a condition which commenced in childhood. The achlorhydria was, possibly, accidental, although worthy of experimental treatment on its own account; dilute hydrochloric acid was accordingly prescribed, to be used at each meal.

Case 2 (A394139)—Mr. E. W. R., aged forty-six years, came to the Clinic June 9, 1922, because of stomach trouble. For twenty-two years he had had "spells" during which he at first felt hungry, but on taking a full meal had a sensation that "everything in his belly stopped"; then a headache would come on, all over the head, but worse in the occiput and brow. Every time he went to town, a headache developed. He said that he seemed to get nervous when he was in a crowd; fatigue was also a factor in causing headaches, which were not often accompanied by vomiting. For the last ten years he had had recurring spells of right-sided, abdominal pain midway between the costal margin and Poupart's ligament. Five years before, his appendix had been removed without effect on the abdominal pain. Six months before, he had been examined at an osteopathic college, where gastroenterostomy was advised. To secure relative comfort he was accustomed to take purges every four or five days. For three months he had lived exclusively on milk. One brother and three sisters had been subject to sick headaches.

Examination—Roentgenograms of the stomach, kidneys, ureters, and bladder did not reveal abnormalities. A test meal elicited a normal secretory response; there was no delay in gastric motility. The systolic blood-pressure was 105, and the diastolic 75. The glasses which the patient had worn for several years were examined, and found appropriate.

Discussion—This case may also be interpreted as typical migraine, and illustrates a common error on the part of patients, namely, the attempt to treat a predisposition to attacks by the elimination of foods which, at best, could only be considered as exciting causes. Jelliffe says, "Complicated systems of diet have been advised by many clinicians; such are usually more prolific in engendering semi-invalidism than useful for the migrainous patient. The only satisfactory method to attack the metabolic problem is to carry out a complete metabolism analysis. The hypothesis of excessive bacterial putrefaction remains unproved." Apparently there is no scientific reason why the diet of the patient with migraine should differ from that of the one without migraine, subject, of course, to the adage that "one man's meat is another man's poison." If any article of food is found invariably to cause an attack, it should be avoided, but I have not encountered such a case.

Case 3 (A394245)—Mr. T. K. C., aged thirty-six years, came to the Clinic June 12, 1922, because of sick headaches. He had had an occasional sick headache all his life, and his father and one sister suffered from migraine. It had been suggested that the chemicals used in his work of finishing photographs were the cause of recent accentuation and increased frequency of the headaches, although he had used the same substances for ten years. Questioning revealed the fact that he was accustomed to work from sixteen to eighteen hours a day, and that he had been constantly tired for the last five years. Six months before his daughter had died. His wife's family lived with him. He had purchased two pieces of property, and these were unpaid for. He was nervous and irritable, sometimes to a breaking point when he was emotional and quarrelsome, and so ill that would be confined to bed for two or three days. The headaches were felt in the vertex and in the back of the neck, and accompanied by a feeling of fullness in the ears. During a recent attack he had been in a hospital, where he was sweated and purged to get rid of the "poisoning."

Examination—The systolic blood-pressure was found to be 130, the diastolic 86. The blood urea was 27 mg. for each 100 c.c. There was no refractive error. Marked dental infection was found.

Discussion—It is difficult, if not indeed impossible, to distinguish the headache of nervous exhaustion from migraine. It is apparent that frequent attacks of migraine must lead to a degree

of nervous exhaustion, and that states of anxiety, and fatigue, are potent exciting factors in predisposed individuals. Visual phenomena appear to occur with both types of headache, as well as with the headaches of intracranial tumors. The social and domestic histories of these patients are more enlightening than the physical examination, in outlining prophylactic care. Teeth, tonsils, or other foci of infection should receive appropriate attention, but one hesitates to suggest a causative relationship, since there is no evidence that such patients have a greater incidence of focal infection than the average patient. At the same time, there is increasing evidence to demonstrate that the removal of foci of infection is a powerful agent in counteracting debilitated states.

Case 4 (A316753)—Mr. H. O. S. (a physicist), aged thirty-two years, was examined at the Clinic July 11, 1923. For as long as the patient could remember he had been subject to illnesses which he described in substance, as follows:

For a day or two he is noticeably depressed mentally, then in the middle of the forenoon, or often just after arising in the morning, he begins to notice scotoma. At first there is a central dark spot with a periphery of light which makes him sightless; this phenomena is then reversed so that there is a central bright flashing spot before his eyes, surrounded by a zone of darkness. There is a slight feeling of dullness behind the eyes, but no actual headache. Areas of tenderness are noted in the hypochondriac regions, sometimes on the right, sometimes on the left, and often on both sides; the tenderness precedes vomiting, and is aggravated by it. A profuse flow of saliva occurs from a few minutes to an hour before the vomiting spell. The patient has a sensation of waves of nausea with vomiting at the crests, until a final effort leaves him free from distress, and exhausted. With the fluctuating nausea he has noticed rapid alterations in the pulse rate from normal to fast; at first he thought the attacks were related in some way to overeating, but closer observation showed that they frequently started when the stomach is empty. Constipation seems the rule at the onset. He has a feeling that at a certain place inside his abdomen something stops or clogs; as the attack proceeds, diarrhea may come on independently of catharsis, although a purge is instinctively resorted to in order to shorten an attack. The exciting cause he believes to be some irregularity in habits, in work, or in eating. Conditions which cause worry or excitement precipitate attacks. The intervals between attacks are longer if he gets relaxing out-of-door exercise. Exercise to the extent of physical exhaustion may induce an attack. He usually goes home and lies down for a few hours during an attack. There is slight impairment of physical and mental capacity for two or three days. His mother and one sister suffer from migraine.

Discussion—This case is an example of abdominal migraine. Although there are no headaches

the heredity, the presence of scotoma, the early onset, the exciting causes, and the course of the attack, make the diagnosis reasonably certain.

Case 5 (A40772)—Mrs. E. R., aged fifty-four years, came to the Clinic June 2, 1922, because of stomach trouble. For twenty-five years she had been subject to attacks of headache, vomiting, and pain in the abdomen. Attacks commenced with headache when she awakened in the morning; nausea and vomiting followed by abdominal pain came on when she got out of bed. The abdominal pain was characterized by a toothache-like pain at the site of a right inguinal hernia, and a dragging pain in the left upper quadrant. During a recent attack, a little blood had been vomited. There was no relationship between attacks of vomiting and taking food, although the patient was accustomed to avoid greasy and sour foods because these were likely to be followed by belching and diffuse abdominal discomfort. There was no family history of sick headaches.

Examination—Manipulation of the hernial sac produced the left upper quadrant pain. The systolic pressure was 176, the diastolic 100. The ocular fundi revealed mild arteriosclerosis. June 8, 1922, the right inguinal hernia was repaired. Six months later the patient wrote to say that she was completely relieved of her distress, including headaches.

Discussion—This case is introduced in contradistinction to Case 3, to show the necessity for a careful consideration of physical findings, and as an illustration of the value of dealing with remediable causes of reflex irritation.

Case 6 (A394199)—Mr. L. C., aged fifty-one years, came to the Clinic June 9, 1922, because of pain in the left lower abdomen. For as long as he could remember, he had been subject to billious sick headaches, especially in the spring and fall. He had been nauseated during attacks, but did not vomit. The headaches were always preceded for half an hour by dazzling, boiling scotomas. The pain was felt all over his head. He obtained slight relief from the use of aspirin, but usually had to lie down in a quiet place and sleep to obtain relief. Calomel and saline purges had been taken when attacks came on. During recent years the headaches had been much less frequent. The patient was not aware of a family history of migraine. During the last six or seven years, he had had recurring pain in the left lower abdomen, and during the last year pain had come on every four or five weeks, and lasted from a day and a half to three days, or a week. A spot pain developed in the left iliac region, accompanied by tenderness; the pain radiated across the front and was felt at the lowest point of the hypogastrium. At such times the patient was more than usually constipated. The pain was somewhat acute for a day and a half, at a point 3.75 cm. above the left inguinal canal. It passed off gradually, with slight residual soreness. There had been no blood in the stools. Six weeks before examination, the patient had had a sudden attack of nausea followed by profuse sweating and diarrhea, with

weakness, lasting one day. He had had a similar attack four or five years before.

Examination—The patient was florid, and appeared to be healthy. He was five feet seven inches in height, and weighed 165 pounds; there had been no weight loss. Neither abdominal tenderness nor a palpable abdominal mass was noted. A barium enema revealed a marked filling defect in the sigmoid. Exploration revealed a large tumor of the sigmoid, adherent to the posterior wall of the bladder, and to the left pelvic wall. The tumor was removed by a plan of successive stage operations, and the continuity of the bowel was restored. Perisigmoiditis was found on microscopic examination.

Discussion—The development of a life-long history of migraine, no matter how typical, should not preclude a thorough physical examination. Changes in the degree or character of the distress, and the addition of new phenomena, even if these are interpreted by the patient as part of his habitual discomfort, are of particular significance. Apart from the subject under discussion, this case illustrates the value of the precise investigation of motor disturbances in the gastrointestinal tract of patients at middle age, and especially beyond middle age, no matter how healthy they may appear. Early diagnosis and adequate surgical procedures are the determining factors in lowering the mortality associated with organic disease of the alimentary canal.

Case 7 (A394342)—Mr. E. R. W., aged sixty-one years, came to the Clinic June 13, 1922. He had had periodic headaches since the age of four or five years, affecting chiefly the right side of the head; he was usually relieved by catharsis or emesis, both of which he induced by the use of Epsom salts. His mother had suffered from similar sick headaches. The patient had had malaria, from the age of eight years, gonococcal infection at nineteen, typhoid at twenty-two, and syphilis at twenty-four. It had been found necessary to do an internal urethrotomy two years before for a stricture of forty years' standing. The operation established free urination, although pus persisted in the urine, and cystoscopic examination revealed a moderate degree of cystitis. Nine and one-half years before, he had had a sudden attack of colic in the right upper quadrant, radiating to the back, and followed by moderate jaundice which lasted two weeks, and since then had noted tenderness in the epigastrium and right lower quadrant. He had a feeling that sugar, fruit and vegetables were apt to increase this tenderness, and that the headaches were associated with abdominal distress.

Examination—The systolic blood-pressure was 104; the diastolic, 66. The Wassermann reaction on the blood was negative. The neurologist did not find evidence of a lesion in the central nervous system. Exploration was advised, and at operation, a chronically inflamed gall-bladder containing a large

stone, and the diseased appendix which contained multiple fecal concretions were removed. Marked hepatitis with marked scarring in the right lobe of the liver was also found.

Discussion—The presence of migraine should not prevent surgical procedures if such procedures lessen the degree of disability and lengthen life. If migraine exists, surgical prognosis should be qualified accordingly. The diagnostic value of a careful anamnesis is illustrated in this case by the significance of the history of a single remote attack of right upper quadrant colic followed by jaundice.

Case 8 (A394028)—Mr. M. H., aged fifty-nine years, came to the Clinic June 8, 1922, because of stomach trouble. He was accompanied by his physicians, and was admitted to the hospital as an emergency case. A month before, while picking up corn around a machine, the patient had had a sudden attack of excruciating frontal headache and had found difficulty in walking to the house, about fifty feet away. On arriving there, he had noticed slight difficulty in speech; then he had commenced to vomit, at first a large amount of coffee-ground material, and later in the same day, a quantity of bright red blood. Hematemesis continued for twenty-four hours. When his physician was called, slight weakness in the right arm and hand was noted. His blood-pressure was said to be high, and his physician suspected a stroke of apoplexy. Severe generalized headaches and bilateral tinnitus persisted for four days. These were followed for two or three days by complete aphasia, and numbness, and more definite weakness in the right arm and leg. On inquiry, it was found that, since childhood, the patient had suffered from attacks of bilateral frontal headache associated with nausea and vomiting. Recently he had given up smoking, because of increased frequency and severity of headaches and vomiting. He had also voluntarily restricted his food intake, and reported a loss of twenty-four pounds in a period of six months. His mother had suffered from sick headaches.

Examination—The systolic blood-pressure was 124, the diastolic, 90. The ocular fundi were negative; there was slight weakness of the right hand and arm. The Wassermann reactions on the blood and spinal fluid were negative. The cerebrospinal fluid was slightly yellow. There was a sense of resistance in the epigastrium, and the edge of the liver was easily palpable. A test meal revealed normal gastric acidity, but no stasis. Roentgenologic examination of the stomach revealed a normal outline and normal motility. A roentgenogram of the colon was negative. At the end of two weeks the right hand and arm were apparently as strong as the left. There was no gastric disturbance, and the patient returned to his home in New Mexico.

Discussion—A complete interpretation of this case is perhaps hazardous. The loss of weight

and gross hematemesis suggested gastric cancer, but this could reasonably be excluded by the subsequent course, by the examination of the secretory and motor activity of the stomach, and by the demonstration of an intact luminal contour. There is little doubt that a mild intra-cranial hemorrhage occurred, as is shown by the association of yellow spinal fluid and transient hemiplegia. Whether or not the initial headache was due to migraine or to arteriosclerosis, or was secondary to increased intracranial pressure from hemorrhage, could not be demonstrated. The case may, however, be used to direct attention to the headaches of arteriosclerosis. Arteriosclerotic headaches are characteristically persistent, but comparatively much less severe than those of migraine. The absence of hypertension and of retinal sclerosis in this case supports the possibility that the series of symptoms were primarily dependent on migraine.

Case 9 (A432395)—Mrs. L. B., aged thirty-seven years, came to the Clinic July 10, 1923, complaining of trouble with the stomach and eyes. Eight years before, she had had an attack of acute, somewhat diffuse, non-radiating pain, accompanied by palpitation and dyspnea, while doing the weekly washing. The symptoms disappeared after a few days' rest. Four years before, she had had a similar attack during extra exertion in caring for her baby. For the last three or four years she had noticed dyspnea on walking fast, and more recently substernal tightness, and diffuse lower abdominal pain on ordinary exertion. During the eight years her stomach had often been sour, and was relieved by belching. She had learned to avoid sour fruits and greasy foods. All her life she had had sick headaches which came in spells, lasting from two to three days, commencing with scotoma, then unilateral or bilateral frontal headache which progressed in severity until nausea and vomiting came on. Her mother had similar headaches. Recently these spells of severe headache have become infrequent. During the last three or four months she has had almost constant pounding parietal headache with pain behind the eyes, persistent blurring of vision, dizziness, ringing in the ears, and tingling in the finger tips, so that she could no longer crochet. Her leg muscles cramped, and she suffered from insomnia, constant fatigue, and slight edema of the lower extremities.

Examination—A connected history was obtained with patience. Her memory was definitely impaired; she was easily confused, and showed a tendency to laugh facetiously, probably to conceal the embarrassment which her slow cerebration induced. The peripheral arteries were thickened, the retinal vessels showed evidence of hypertension. The systolic blood-pressure was 210, and the diastolic 110. The heart was slightly enlarged. Renal function was good, and the electrocardiogram did not show significant

changes. A test meal revealed average secretion. Roentgenograms of the stomach were negative.

Discussion—In this case certain points of interest may be selected: a history of subsiding migraine on a hereditary basis, a story of qualitative food intolerance with a good deal of bloating and belching, abdominal distress, not clearly localized but produced by exertion accompanied by palpitation and dyspnea and relieved by rest, arteriosclerosis, the hypertension type of headache supplementing the migraine, and presenile cerebral changes. The case appeared to be essential hypertension with arteriosclerosis, and the attacks of abdominal distress, angular.

DIAGNOSIS

There are three cardinal points to be observed in the differentiation of migraine: (1) onset in childhood or adolescence; (2) heredity, or at least a familial tendency, and (3) periodicity, or the tendency to occur in "spells." As has been indicated, the distinction between the headaches of nervous exhaustion and of migraine, is usually difficult. In the absence of a history of onset in early life, of heredity, and in the presence of adequate cause for nerve fatigue, it may be best to consider the headaches as the result of nervous exhaustion. This type is more often associated with anxiety, especially with an introspective or hypochondriacal tendency. An accurate distinction between these types is not particularly necessary since both require the same prophylaxis. The headaches that occur with general diseases are recognized by their association in time with the onset of the disease. A patient with a history of recent onset of severe headache should have a careful physical examination, including the ocular fundi, and urinalysis.

TREATMENT

Prophylaxis—The first essential in the treatment of migraine, or headaches of nervous exhaustion, is the recognition by the patient of the limitations which the hereditary or acquired predisposition places on psychical and especially on the emotional reserve. Just as the patient with cardiac disease must guard against physical effort that may bring about decompensation, and the blind in one eye against injury to the remaining member, so must the patient with migraine shield his nervous system against preventable strain. He must cultivate poise, and figuratively, turn off all possible switches that drain his storage battery of nervous energy. Exciting circumstances of work or recreation should be avoided. There should be no thought of invalidism, or development of eccentric habits. On the contrary, it is important

for the patient to cultivate an optimistic philosophy and, as a precedent for this, is the important fact that many brilliant intellectuals have suffered from migraine. A measure of contentment is absolutely necessary, and this comes to man only through purposeful productive occupation. Temperance rather than prohibition, is the practical motto for this group of persons.

The attack—The actual paroxysms should be treated by analgesics which are not habit-forming. Aspirin is usually efficient; indeed in my experience it has been so uniformly beneficial as to be almost diagnostic because of its effect. However, all the coal-tar products have their exponents. Most patients are relieved only after sleep, and this comes sooner if all efferent sensory impressions, especially light, sound and muscular movement, are minimized.

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SOME OF THE MORE COMMON NEURO-SURGICAL CONDITIONS*

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Before this gathering, composed of men interested in various lines of medicine, it seemed to me but two possible phases of neurological surgery could be discussed. A general paper, covering the various groups of cases that have fallen into the domain of the neurological surgeon, or a more detailed discussion of the most common conditions in this field about which various misconceptions still exist. Brevity and a fondness for cold facts have prompted me to select the latter subject.

The two subjects, therefore, I shall confine my attention to this evening are trigeminal neuralgia and gliomas of the brain.

Those of us who perhaps rather rashly put all of our eggs in one basket, and have given up all general surgery, have naturally welcomed the definite trend of the last five years on the part of the general surgeon to leave the problems of neurological surgery to those specially trained and

interested in that work. As a consequence, the entire prognosis of such a disease as trigeminal neuralgia has changed. A disease whose radical treatment by operation had such a high mortality that clinicians sought other means of relief in order not to subject their patients to such grave risks, has today practically no mortality, much less than one per cent. It is amazing, however, how slowly the truth filters through. Text-books incorporate new ideas so slowly that not infrequently, as in this instance, they are fully ten years behind the times, for all I have looked at still say this operation is one of the most dangerous of operations.

The best methods of treating this disease are now well established; the most difficult problem centers now about the correctness of the diagnosis. A few years ago I used to say that if a patient had a return of pain after a Gasserian ganglion operation, the operation had been done imperfectly, but we have all had the trying experience occasionally that in spite of a technically perfect operation, as proven by the complete anesthesia of the region supplied by the fifth nerve, the patient still had pain. In almost all these instances, the diagnostic error is that one of those very peculiar nasal neuralgias, to which Sluder of St. Louis first drew attention, has been mistaken for a true *tic douloureux*. It has been my privilege to be associated with Dr. Sluder for the last twelve years, and even he has at times been quite at a loss to find the cause of these pains in the distribution of the trigeminal nerve. How can this error be avoided in future in the doubtful cases? The most effective method is to inject one of the affected branches with alcohol to see if this temporarily relieves the pain. If it does, it is undoubtedly a true *tic douloureux*, and operation on the posterior root of the Gasserian ganglion then always results in a cure. If injection of a branch does not give relief, cocainization of the sphenopalatine ganglion, as devised by Sluder, as a rule clears up the diagnostic dilemma.

The nasal neuralgias, however, are not the only conditions which simulate *tic douloureux*. The other conditions are inflammatory conditions about the face and jaws, infected or impacted teeth, tumors on the jaws or gums, retropharyngeal tumors, or intracranial tumors pressing on the Gasserian ganglion, so-called Gasserian ganglion tumors. All these must first be excluded. None of these are difficult to recognize when once thought of, with the exception of the Gasserian ganglion tumors. Some years ago I reviewed these cases and set down the symptoms and signs that were characteristic and differentiated the condition from *tic douloureux*. These

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were: constant pain in the distribution of the fifth nerve, not pain occurring in paroxysms; paralysis of the motor branch of the fifth nerve; anesthesia or hypaesthesia in the distribution of the fifth nerve.

Before resorting to an operation on the posterior root of the ganglion, which always remains a formidable operation even if not dangerous as it formerly was, the surgeon must satisfy himself, even after he has decided he is dealing with a trigeminal neuralgia, whether the disease is severe enough to warrant the radical operation or whether palliative measures are indicated. No hard and fast rule can be laid down on this matter.

I use but two methods of treatment, either alcohol injection, or the radical operation on the posterior root of the ganglion. I do not believe in any of the peripheral extractions of the nerve; they are disfiguring, are only palliative, and often do not afford nearly as much or as long relief as do the alcohol injections. When but one branch is involved, an alcohol injection should almost always be tried first; but I have done the radical operation where but one branch was involved, either because of the patient's intense suffering and desire to be permanently cured, or because the patient grew tired of repeated alcohol injections and wished permanent relief. In very few instances has it been my good fortune to give permanent relief by an alcohol injection; as a rule the pain returns within one to two years.

The operation on the posterior root of the ganglion has replaced the earlier operation of removal of the ganglion itself. It is somewhat easier, requires a smaller exposure and, as pointed out by Spiller and Frazier, who first suggested the operation, accomplishes all the removal of the ganglion did. It has, furthermore, certain advantages, for it makes it possible to save the motor branch of the fifth nerve, thus avoiding paralysis of the muscles of mastication on one side, which does not in any way interfere with mastication but at times annoys particularly sensitive patients; and secondly, very recently a slight technical improvement has made it possible in selected cases to save the fibres of the ophthalmic division, thus avoiding anesthesia of the cornea.

Though this operation has practically no mortality, there are post-operative results that may be very annoying, and it is well to keep these in mind. Any one who has seen the fearful suffering of a patient with major trigeminal neuralgia would suppose that any discomfort would be readily borne if the pain is gone, but we all for-

get past pain quickly, and the discomfort of the moment is always more prominent.

Some of these patients, after operation, are annoyed by the numbness of their face, which is an inevitable accompaniment of the operation. It feels "woodeny," or "thick," or at times they say it feels "crawly." The vast majority of patients very soon grow accustomed to this, but occasionally a patient is much annoyed. There is nothing to do for this, and a patient should always be told beforehand of this and the other post-operative possibilities.

A much more serious complication occasionally occurs, namely, paralysis of the facial nerve with consequent inability to close the eyelid. This has happened to me three times in my series of over sixty cases. Fortunately the facial nerve recovered in all three cases, but during the period of recovery the eye is in a very precarious condition. The cornea is anesthetic as a result of the extirpation of the fifth nerve, and a corneal ulcer is almost unavoidable. These ulcers may be difficult to heal, and the cooperation of an ophthalmologist, who understands the difficulty of the problem, is necessary. Saving the ophthalmic division of the fifth nerve obviates this complication, but I hesitate to do this, as, in trying to separate the fibres to the first division, one may leave some second division fibre, and leaving any of those fibres means a continuance or recurrence of pain. Besides, if certain simple precautions are followed, patients will have no trouble. The precautions are these: First, having the anesthetist keep the eye covered so that no ether fumes come in contact with the cornea; second, covering the eye at the end of the operation so that the patient cannot touch his anesthetic eye ball; and third, instructing the patient how to wash out his eye with salt solution in an eye cup to remove any irritating particles that he could not feel because of the anesthesia of the cornea.

In the past year, several articles have appeared which contained some misleading statements in regard to the subject. One was that if this operation were done under general anesthesia, the patient would be greatly shocked and therefore it should be done under local anesthesia. This has not been my experience. My patients practically all sit up in bed the next morning and leave the hospital in five to seven days after operation. This operation should be done deliberately, and if troublesome bleeding is encountered, as occurs in a certain number of cases, progress may be slow and difficult. It is a trying operation for the surgeon. Why make it also trying to the patient by making him go through the added ordeal of

all that goes on about him? A certain amount of pain is inevitable with local anesthesia and this the patient can well be spared. I have used local anesthesia in a few cases but find no benefit to the patient and have, therefore, discarded it.

The other statement is that facial paralysis occurs after almost all of these operations. This is absolutely incorrect, and were it true would be enough to discredit the operation. When a sensory nerve is destroyed, the muscles which receive their sensory supply from it lose their tone, but the muscle still can be moved. Occasionally, for a few days, one may see such lack of tone, but that is not a facial paralysis, for all the muscles innervated by the seventh nerve can be moved. Rarely a true facial paralysis occurs, the cause of which has occasioned much discussion, but when it occurs the picture is a very different one.

I feel that few, if any, operations in surgery are followed by more satisfaction, in the vast majority of cases, than is the extraction of the posterior root of the Gasserian ganglion.

The second subject, gliomas of the brain, which I wish to take up with you, has two points of similarity to the first. The text-book information is very inaccurate, and secondly, specialization has advanced the treatment and improved the results tremendously. But there the similarity ends, for the operations have a mortality varying between 10 and 15 per cent, though the permanent cures are much lower than the operative recoveries. Infiltrating tumors never yield as large a number of permanent cures, though newer methods are constantly increasing the number of cures. I use the term infiltrating and not malignant, as I feel there is a very definite difference between the two terms when applied to the brain. A tumor that only infiltrates, but never metastasizes, is much more amenable to treatment than one that metastasizes as well as infiltrates. Gliomas never metastasize, and only some of them infiltrate. Quite a few are sharply defined and can be cleanly enucleated, and others are cystic and the growing portion of the tumor is a small nubbin of tumor on the wall of the cyst which can readily be removed and a permanent cure thus be effected.

The infiltrating gliomas require a very extensive and radical type of operation if we hope to cure them. There are those who believe that such gliomas should be left alone, but I cannot share that view. I attempt to remove the entire tumor if I can, and then follow it up with very intensive deep x-ray therapy. I gave up radium over two years ago, as it was quite ineffective in

my hands and tended to stimulate, rather than inhibit, any tumor tissue that had been left, but with powerful x-ray therapy the results are very promising. Whenever the tumor can be localized, I believe in going after the tumor, and only use palliative measures where no localization is possible, or where, for some special reason, I don't think a patient can stand an extensive radical operation. I want to say right here that there is no method in my experience which enables us to localize 100 per cent of brain tumors, just as I know of no other method in medicine that gives 100 per cent results, and therefore there are instances in which palliative measures must be employed, but these are becoming fewer as our methods of diagnosis are becoming more accurate.

This brings us back to the most important phase of this subject, as it was of the first one I took up, namely, the diagnosis in these cases. I have, of course, no time to go over the entire question of brain tumor diagnosis; I merely want to point out the distinguishing diagnostic features of the gliomas, and the methods that are most useful in arriving at a localizing diagnosis.

The gliomas constitute fully 45 per cent of all brain tumors. The history very frequently will enable one to predict the nature of the tumor. There are gliomas that are present for a long time, but in the vast majority of cases the symptoms develop rapidly, sometimes in four to six weeks, and therefore it is essential to recognize them early, for they may grow at an amazing rate.

The second most frequent growth in the brain is the endothelioma. The gliomas and endotheliomas together comprise between 60 and 75 per cent of all tumor cases. The rate of development of the disease is the great distinguishing feature between gliomas and endotheliomas. If a patient develops brain tumor symptoms rapidly he has almost certainly a glioma; if the symptoms develop slowly, it may be an endothelioma, though once in a while gliomas develop slowly, especially if they are cystic. The symptoms of onset vary greatly, but the rate of progress of the disease is the most important single factor which makes one suspect a glioma.

Our diagnostic methods may be summed up under four headings:

1. A neurological history.
2. Neurological examination, which includes, of course, very careful eye fields.
3. X-ray.
4. Air injection of the ventricles.

The first two still are the most important methods we possess. The x-ray may be a valuable

aid, and air injection may be a further aid, but the latter, in my experience, is by no means an infallible method. In fact, in my hands air injection has rarely helped me, though in a few instances it has been of distinct value and has made a localizing diagnosis possible when all other methods failed; but, on the other hand, it has misled me a number of times, and is attended by some risk, and in one instance, at least, was the cause of death.

The history, if taken by one specially trained to study these cases, is invaluable, for by proper questioning, early symptoms may be developed that would be missed in the ordinary questioning. The initial symptom and the sequence of symptoms are of vital importance, particularly in aiding in the localization. It is from the history very frequently that one can determine whether one is dealing with a glioma or some other type of tumor.

Brain tumors need early treatment. They should not be temporized with; as soon as a brain tumor is suspected, the physician should get action. There are two "don'ts" that I should like to refer to right here. Unless you have positive evidence of syphilis, don't lose precious time by giving antisyphilitic treatment; gummas of the brain are much rarer than tumors. In over 350 craniotomies for suspected tumor, I have only found three cases of gumma. The second "don't" is not to use lumbar puncture in cases that are clearly tumor cases, as shown by the severe headache, changes in the eye grounds, or evidence of marked increased intracranial pressure on x-ray. In such cases lumbar puncture is a real danger, and has been responsible for a large number of unreported deaths. I do not wish to be understood, however, as advising never to do a lumbar puncture, for there are cases where a knowledge of the cerebrospinal fluid is essential, particularly to exclude cerebrospinal syphilis, for at times in these cases the eye ground picture of optic neuritis is indistinguishable from choked disc. The cell count of the cerebrospinal fluid is of far greater value than the amount of cerebrospinal fluid pressure. Cerebrospinal fluid pressure does not necessarily indicate increased intracranial pressure.

The neurological examination is our second great aid, and the more carefully and thoroughly this is made, the larger will be the number of accurate diagnoses. No one feature of this examination is of greater importance than a careful study of the eye fields. The obscure tumors of the temporal lobe are more often recognized as a result of a careful field examination than in any other way. After completing the history and

physical, the proper interpretation is of greatest moment. The evaluation of points in the history as compared with physical findings may be the crucial deciding factor. A striking example of this was the case of a man who had all the symptoms and signs of increased intracranial pressure, headache, vomiting, choked disc, and focal convulsions. These had all developed in a few months. With great difficulty the following fact was finally developed in the history, that for the previous eighteen years he had had subjective sensations of hearing, hearing bells ringing which no one else could hear. The physical signs suggested a lesion in the motor area, but the subjective signs of hearing pointed to a lesion in the posterior portion of the temporal lobe in the auditory center. As these symptoms preceded the motor symptoms by many years, that region was exposed at operation and the tumor was removed from that region.

There are a number of symptoms and signs of brain tumor about which there still exist misconceptions. Men ask me, how can this be a brain tumor, the child has never complained of headache, or the patient's eye grounds are normal, and there is no choked disc. It is true that the majority of patients with brain tumors have one or both of these symptoms, but children very frequently have no headache, which is due to the fact that the sutures on a child's skull give way and thus intracranial pressure is sufficiently relieved to prevent headaches, or when a tumor grows very slowly it may not produce much headache, and this is also true of choked disc. When a tumor develops very slowly, there may be no eye ground changes for a very long time. Glioma cases, however, almost always complain of intense headaches and show eye ground changes.

The change, however, that has come over the profession in the diagnosis of brain tumors in the past twelve years, is quite remarkable. Whereas when I first came to St. Louis, I rarely saw a tumor case that was not nearly blind, today I see case after case that is sent because the doctor suspects a tumor, but the findings are so few and indefinite that watchful waiting is the best advice to give. When one of those cases develops a tumor, their chances of a permanent cure are very good, for they are operated upon early in the disease, and a radical cure can be effected, unless their tumor has its origin so deeply in the brain that it cannot be gotten at satisfactorily. In other words, there are still cases, at present, that, from the first day the symptoms appear, are incurable.

What is the status of the x-ray? This must be considered from two points of view, as a diag-

nostic and as a therapeutic agent. In diagnosis, it may help tremendously. It may clinch a doubtful diagnosis, and, in a small percentage of cases, may show a tumor shadow, but as a rule it only shows the result of intracranial pressure, convolutional markings, areas of thickening or thinning of the skull, deformities of the sella turcica. When, however, air injection of the ventricles is performed, the x-ray gives much more information, for the shape of the ventricles and the way and extent to which they are dilated may help to determine the location of a tumor. As I said earlier in this paper, it does not always give this information, so that, in my experience, the percentage of cases of localization has not been greatly increased with this new aid. When used cautiously, I feel it is a method we must employ whenever simple diagnostic methods have failed.

Very powerful x-ray, as a therapeutic agent, is the most recent addition to our armamentarium. The Coolidge tube, with the 200,000 volt current, seems to do extraordinary things. It stops certain gliomas from growing, or destroys what remains of them. Whether it affects all gliomas alike, I do not know. Whether it affects a permanent cure, I am not prepared to say. It seems most promising but it has not yet reached the stage that it supplants the surgery of brain tumors. At present, it should be used post-operatively, but I see no justification to use it instead of surgery.

In summing up, I feel we are justified in saying that the successful treatment of gliomas of the brain is distinctly more promising. The increasing success depends on early recognition of the case. The most valuable diagnostic methods still are the neurological history and physical. X-ray and air injection are valuable further aids. The permanent cure is possible by radical surgical methods combined with deep x-ray therapy.

THE EARLY STAGES OF CHRONIC BRONCHITIS*

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The non-tuberculous infections of the lungs have been the subject of an increasing amount of study and discussion during the past decade. This has been most active and more fruitful of therapeutic results in the field of the surgical infections such as pulmonary abscess, gangrene and localized bronchiectasis. There exist however, a

probably larger group of pulmonary infections, not due to the tubercle bacillus, for which, either because of their widespread involvement or because of the relatively slight gravity of the lesions or of the ill health which they cause, lung surgery is either not likely to afford relief or its risks greatly overbalance the patient's disability. In these infections any reduction in incidence or in mortality must be accomplished either by medical treatment or by forestalling their development, or in less fortunate cases mitigating their severity, through early recognition and prompt and adequate treatment or those conditions which may foster their progress.

Aside from such specific infections as syphilis and actinomycosis, the most common and important of these chronic, non-surgical, non-tuberculous lung infections are chronic bronchitis, diffuse bronchiectasis and the closely related group of milder infections which have been described in several papers¹ during the past ten years under various titles of which the term "chronic non-tuberculous lung infection" has come into most common use. All these conditions have in common a course of great chronicity, interrupted by occasional acute exacerbations, and often leading by very gradual stages to greater and greater degrees of physical impairment; they are only slightly amenable to the usual means of medical treatment. Etiologically, each of these syndromes may be found associated with one or another, occasionally with several of the common pulmonary invaders, the pneumococcus, the influenza bacillus, the micrococcus catarrhalis and various types of streptococci.

The most common of these infections is chronic bronchitis which is usually thought of only in its text-book guise of the chronic, long-established disease in a patient past middle life. This picture bears the same relation to its early stages as does the former text-book picture of cancer to the early stages and pre-cancerous states which we now seek to recognize and eliminate. The history of the chronic bronchitic, carefully taken, holds many fruitful suggestions bearing up pathogenesis and prevention. It is rarely a short one. Through the mutations of "colds" usually with accompanying cough and often with frank acute bronchitis, of sore throats or tonsillitis, of persistent and troublesome catarrh, varied now and then by an attack of otitis media or a bronchopneumonia, the history of the respiratory infection takes its way. Not rarely attacks of bronchial asthma appear and disappear in the picture, or perhaps entirely dominate it. The times of onset of persistent cough, of persistent sputum or of dyspnoea are hazy; occasionally they may be

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dated from a definite exacerbation. Gradually the symptoms suggestive of beginning cardiac or renal incompetency appear until finally the picture of the late stages is developed. Having regard for the long duration of the disease with its prolonged opportunity for mechanical strain upon the heart and for toxic damage to heart and kidneys from the usually present infection, it is not surprising that Lord² could find that, by the time of death, these organs presented lesions which might be considered primary, or that Hawes³ records a sharp difference of opinion as to whether or not chronic bronchitis exists as a primary disease. A painstaking history is as important in mapping the evolution of chronic bronchitis in the middle-aged and elderly as in detecting the early manifestation of tuberculosis, long antedating the final breakdown. Such a history moreover surprisingly often brings to light episodes which are indistinguishable from those characterizing the milder types of pulmonary infection to which reference has been made.

The evolution of the physical signs through the years is comparable to the evolution of the symptoms, and like them, often passes through stages indistinguishable from those characterizing the so-called "non-tuberculous pulmonary infections." Cough may be present for long periods of time in the absence of detectable physical signs in the lungs. Sooner or later, following a fresh cold or an acute bronchitis there appear in one or the other lung, perhaps in both, and usually in the lower lobes a variety of abnormal signs. These may be very slight and sufficient to attract attention only on the most careful examination, or they may be very definite and unmistakable. In their slighter forms there may be found only an abnormal transmission of the whispered voice, much more rarely of the spoken voice or an abnormally harsh and prolonged expiratory note; occasionally there may be found an area of faint but unmistakable cog-wheel breathing. Changes in the percussion note only rarely accompany these slighter signs and when present are manifested only by a slight relative impairment rather than by actual dullness. Such signs may be limited to a very small area or they may occasionally be detected over a surprising portion of a lobe. In their more marked stages several or all of these signs may be combined in more marked degree and may be accompanied by the presence of few or many medium or fine moist rales, occasionally by subcrepitant rales. Their characteristic features lie in their insidious appearance, their persistence over long quiescent periods with little change and frequently the relatively slight degrees of physi-

cal impairment and meagre symptoms with which they are associated.

The literature of these earlier stages has been well reviewed by Field,⁴ who calls attention to these conditions as they occur in children. The range of severity of this syndrome appears to present all gradations from the mildest type in which the symptoms and signs persist for a few months and disappear without recurrence, to those in which the clinical picture merges with that of chronic bronchitis. The course may be benign with recovery in a few months or the condition may progress by gradual stages with frequent exacerbations to the fully developed picture of chronic bronchitis or of bronchiectasis. Its progress may be interrupted at any stage of advance and thereafter remain practically stationary for long periods of time, or become quiescent.

Pathologically the chain of events is difficult to follow for the very simple reason that patients do not die from the early lung lesions and the changes found in those dying of advanced chronic bronchitis bear little relation to those presumably present in the early stages. Hamman and Wolman¹ have reported one post-mortem in a patient dying of an intercurrent pneumonia in which they found a "localized bronchitis, with infiltration of the bronchial wall and foci of bronchopneumonia about the smaller bronchi." The x-ray throws some light upon the gross distribution of the lesions but in the cases reported as well as those coming under my own observation, no constant picture has been found.

Perhaps the most common change has been that of an accentuation of the normal lung markings, particularly of the smaller divisions of the bronchial tree, usually to a different degree on the two sides and sometimes confined to one side. This is sometimes accompanied by small areas of relative opacity in the surrounding parenchyma, distinctly denser in appearance than the fluffy areas of early tubercular infiltration. The distribution has usually been in the lower lobes, occasionally in both upper and lower lobes and rarely confined to one upper lobe. Physical signs pointing to hilus gland enlargement have been found more frequently in my experience than they have been confirmed by the x-ray but such enlargement has not infrequently been shown in the films. It is difficult to decide whether the lesion primarily involves the bronchi or the lung parenchyma and whether it is properly to be regarded as a chronic bronchitis, a chronic peri-bronchitis or as a chronic pneumonitis. It is probable that all these changes are present in varying degree in different cases which are clinically much the same.

Whatever the pathology may prove to be it seems clear that it is difficult or impossible to draw a dividing line between these mild types of pulmonary infection and the early stages of chronic bronchitis. The inveteracy of the latter condition suggests that attention might profitably be turned to an attempt to recognize and treat these earlier stages in hope of warding off the latter.

There is a considerable body of evidence which suggests that the upper respiratory tract may play an etiological role in both the earlier and later stages of the disease. In considering the disease of the lungs the fact is frequently overlooked that the nares and nasal sinuses and the pharyngeal tonsillar tissue constitute an integral part of the respiratory tract, are frequently infected and are in direct connection with the lungs. As Rist⁵ aptly says it is comparable to ignoring the condition of the urethra and prostate in dealing with the diseases of the kidney, ureter and bladder. St. Clair Thompson⁶ in 1914 noted the influence of chronic sinusitis as a cause of persistent bronchonhea. The rapid disappearance of chronic cough and of the signs and symptoms of hilus gland enlargement in children following the removal of diseased tonsils and adenoids has long been noted. Rist in 1916 emphasized the relation of sinus disease to chronic pulmonary infection and laid particular stress on their differentiation from pulmonary tuberculosis. In a later contribution⁷ he calls attention to the analogy between the frequent and well recognized association of acute coryza with acute bronchitis and the probable similar etiological association between chronic nasal and chronic pulmonary infections, and states that in his wide war experience over 50 per cent of the proved non-tuberculous pulmonary infections fell in this category. In this country Webb and Gilbert⁸ have called attention to nasal infections as an etiological factor in chronic bronchiectasis and state that they have "found few cases of bronchiectasis or chronic bronchitis in which infection of the accessory sinuses was not demonstrated." Mills⁹ has also reported three cases of protracted chronic bronchitis in children in all of whom marked antral infection was found. Mackey¹⁰ has studied 276 cases of chronic bronchitis bacteriologically and reports that he was able to secure positive nasal cultures in 256; that in many cases the nasal and sputum cultures show identical organisms and that he is convinced that "there is bacteriological and clinical evidence that the bronchitis is not primary but is the result of the nasal infection." Mullin and Ryder¹¹ have studied the route by which infections may travel from the nares and

pharynx to the lungs and believe that their results indicate that this may be by way of the lymphatics or by direct inhalation.

Since January 1, 1921, twenty-six patients whom it has been possible to study with some care, have come under observation presenting the clinical picture of chronic bronchitis or of the so-called "chronic non-tuberculous lung infections." Cases of surgical pulmonary infections, of bronchiectasis and of bronchial asthma as such are not included in this series, and pulmonary tuberculosis could be definitely excluded in each case. The age of these patients ranged from five to sixty-five years with a remarkably even distribution by decades, viz. Twelve were fe-

0-10	10-20	20-30	30-40	40-50	50-60	60-70
4	3	4	4	3	5	2

males, fourteen were males. The duration of the symptoms, which were those previously discussed as common in the chronic non-surgical, non-tuberculous lung infections, ranged from four months to fifty-nine years. Three cases presented a duration under one year; eleven under five years and eight over ten years. A diagnosis of pulmonary tuberculosis had been made at some time previously in twelve, and many of these had been sent to Colorado for this reason. The onset of symptoms followed an acute illness, usually a "cold" or an acute bronchitis, in eleven patients; in fifteen it was insidious and could not be definitely dated. Excluding a few in whom superficial block streaking occasionally followed a severe coughing attack, only three gave a history of definite haemoptysis. Asthmatic attacks had been present at some time in nine patients, in four of whom they were severe and persistent. In these twenty-six patients no foci of infection could be demonstrated anywhere in the body in five; infected tonsils were present in a total of thirteen, alone in six, associated with infection of the nasal sinuses or the teeth or both in seven. Infection of the nasal sinuses was demonstrated in twelve cases, alone in seven and associated with tonsillar or tooth infection or both in five. Apical infections of one or more teeth were found in a total of nine cases, in only one however as the sole infection present. In six cases infections of other parts of the body were demonstrated, of the gall-bladder once, chronic appendicitis twice, of the prostate twice, and once an otitis media. Each of these was associated with infection of the tonsils, sinuses or teeth. Cultures from the infected foci showed a streptococcus eighteen times, being the only organism present in ten cases, associated with a pneumococcus in nine

cases, with the *M. catarrhalis* in one case. The latter organism was found in nine cases, but never by itself. Other bacteria found but not regarded as of etiological significance were the staphylococcus aureus twice and the *M. tetragenous* once. Curiously enough the Pfeiffer bacillus was not reported in any of this series.

The treatment recommended comprised general hygienic measures designed to enhance resistance, removal of foci of infection where demonstrated and possible, and the use of autogenous vaccines. Of the twenty-six patients there were eleven who either did not follow up treatment, who were seen only for diagnosis, who have not been under treatment for a sufficiently long time to permit of conclusions as to its efficacy or in whom no foci were demonstrated. Of the remaining fifteen all received appropriate hygienic treatment. In six of these all demonstrated foci were removed and no vaccine given with improvement in three, temporary improvement in one, no improvement in two. In six patients for various reasons demonstrated foci were not removed but autogenous vaccines containing the organisms present in those foci were administered over varying periods of time. Of these two showed improvement, three temporary improvement and one no improvement. In three patients in whom it was possible to remove demonstrated foci and to administer autogenous vaccine over a satisfactory length of time, all are recorded as improved. Improvement is here used to indicate freedom from symptoms and absence of signs of chest activity over a period of from six months to three years; temporary improvement to indicate definite amelioration of both symptoms and signs at least temporarily. The series is too small to permit of any useful correlation between the results obtained and the type of focus or of organism involved, or of the effect of duration of symptoms upon the probable result though the impression has been gained that, as might be expected, the patients with a shorter history afford a better prospect of relief. It also seems justifiable to conclude that foci of infection about the upper respiratory passages are very frequently associated with these chest infections; that such foci frequently stand in a casual relation to the latter and that their removal constitutes an essential step in the curative treatment of these conditions.

The non-surgical, non-tuberculous lung infections form a closely related and overlapping group of which chronic bronchitis and bronchiectasis represent the advanced stages; they are in the aggregate the cause of much ill-health and a factor in shortening life; when well established

the advanced stages are unamenable to treatment. It is therefore particularly important that the milder infections leading up to them be recognized as potential early stages to the end that the development of the more serious conditions may be forestalled by appropriate treatment of the antecedent lesions.

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COMPLICATIONS OF PREGNANCY*

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Pregnancy or gestation is the state of the female from the time of conception until the birth of the new individual. This constitutes the process of reproduction. Reproduction is given as one of the physiological processes of a cell or group of cells and we are taught to believe that this process of reproduction is a normal physiological process, this however, I cannot conceive to be correct when I review all the conditions arising during pregnancy. Our patients tell us they will be sick at a given time, but I believe they have been sick for months before the date they figure as the date of delivery. The process of reproduction is disturbed from the first by many conditions apart from the normal, therefore, must be a pathological condition.

From about one-half of our country which reports births we learn that approximately 10,000 women die every year during some stage of child birth. The number of women left invalids would mount in figures to frighten every woman if these figures were put before the reading public. D. E. Lee says fully one-half of all pregnant women have pathological conditions following childbirth which send them to a hospital for surgical or medical treatment some time during their after life. From 3 to 5 per cent of babies die during delivery and many are permanently crippled physically or mentally by the forces of labor. It would be surprising if a function which causes such marked general and local changes as does

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gestation could be carried on without pathological changes.

At once the developing ovum causes changes to take place in the mother, the evidence of which is to be found in the breast, blood serum, and such ductless glands as ovary, thyroid, and supra-renals. These changes are said to be due to enzymes of ferments having their origin in the trophoblast which is a layer of cells in placenta having a digestive action. There are anti-bodies formed in the blood stream of the mother to care for, and neutralize such toxins formed and thus prevent marked changes taking place. The accumulation of these toxins in the blood produce an auto intoxication in the mother as early evidenced by varying grades of vomiting and the like. These toxins should be excreted by way of the ordinary channels of excretion, but if for pre-existing causes, of those later set up, they are not—we again develop pathological conditions—mostly due to faulty renal activity.

This subject as you know covers a great deal of territory, and it would be impossible to take it up in detail, or cover all conditions in the course of a short paper. I wish to consider only those that are of importance and the ones that we all look for when caring for a pregnant woman. Allow me to take them up in three stages. Those of the early months of gestation, those of the second half of gestation and those complications at time of delivery. In the early months we have the toxemia of pregnancy—pernicious vomiting and the local conditions of extra uterine pregnancy as the most common complication.

In the early months of gestation we have mild and severe types of vomiting—ptyalism, chorea, later kidney changes, nephritis, and eclampsia.

Prenicious vomiting is one of the most perplexing conditions which the obstetrician is called upon to care for. Fully 50 per cent of pregnant women vomit at some time during gestation—fortunately but few are of the pernicious type. We have to consider two distinct types of vomiting from an etiological standpoint. The neurotic and toxic types.

The purely neurotic type or often called reflex type are due to mal position of uterus—to stenosis of cervical canal or other mechanical disturbances. This conclusion is arrived at due to the fact that correcting of such mechanical disturbances will clear up the vomiting.

In the toxic type Dr Williams offers the explanation that there is an endocrine unbalance. The excess of toxins formed which are not eliminated produce vomiting in the degree of the retained toxins. In the early months there is a loss of function of ovary—and a disturbance in

thyroid—supra renals and mammary gland. It is in this period that most of the vomiting occurs and it leads us to believe that the theory of endocrine unbalance is correct. I have found in my own practice that the administration of corpus luteum, when given deep into the muscle will at times produce most satisfying results. Some observers report equally good results with the administration of adrenalin chloride. We again see a group of cases where all known treatment is offered and still vomiting persists. One such case was observed in the practice of Dr. Rohlf in which by resorting to the use of the duodenal tube, the patient was carried by the vomiting stage. Often the administration of morphine directly before the meal will prevent vomiting until the food is digested and assimilated, thus preventing a loss of body weight to mother.

Extra uterine pregnancy or ectopic gestation is the one local complication that attracts due attention. During a service at the American Hospital, Chicago, I had an opportunity to see many a ruptured tubal pregnancy—and I fell under the impression that an error in diagnosis of such a case was scarcely possible. However, of late I have seen two cases—one with a positive diagnosis of the tubal pregnancy which did not upon exploration exist—the other with a negative diagnosis and it did exist. Now I am becoming skeptical as to diagnosis. The exact cause of ectopic gestation is a question—but it is generally believed that past pelvic infections play an important roll. Such pregnancies occur more often in older women and those who have been thought sterile. In such gestations the first month rarely passes without some pelvic symptoms which indicate real trouble. A positive diagnosis of tubal pregnancy is seldom made before rupture takes place. The pregnant tube at this stage is as soft as a loop of bowel and as a rule is mistaken for such. However, after rupture the diagnosis becomes easier—you all recall these conditions.

So much for the early months of pregnancy. During the latter months there are changes in mother and babe which cause even greater complications than the early ones. The most common complications are those involving the kidneys. The kidney of pregnancy—nephritis—and eclampsia are closely related. The three conditions all arise in the last half of gestation and seem to develop from one to the other so easily that the border line is hard to distinguish.

Slight amounts of albumen with a few hyaline casts are observed in 50 per cent of all urine examination made for the pregnant woman. This statement will verify itself only where careful and repeated examinations are made. However,

this condition of itself unless severe need cause no alarm as the kidney will return to a normal function after delivery. Some writers and obstetricians consider the kidney of pregnancy as a mild degree of nephritis which can easily develop into eclampsia. However, I maintain that a small amount of albumen and hyalin castes present as a rule, are not grave, but upon the appearance of cellular and glandular castes and an increase in the blood-pressure, we at once have a grave kidney condition—but if the conditions remain at this point with treatment our patient will go through labor without much danger to mother or babe. On the other hand if the above mentioned conditions advance and we get an edema of extremities and face and later changes in the retina with headache and dizziness and loss of vision—we can readily expect that an edema of the brain exists. These severe conditions when accompanied by convulsions is termed eclampsia. Eclampsia which is considered by many as a purely surgical condition can many times be cared for with medical treatment. In the treatment of eclampsia the termination of labor is not the sole aim. The important feature in the treatment is to eliminate the toxins present in the mother's blood. If this cannot be accomplished without emptying the uterus some surgical procedure must be considered. All patients presenting a pre-eclamptic group of symptoms are distinctly hospital cases. The infant mortality of eclampsia is very high. A large per cent of cases occur at or before the thirty-sixth week. The mortality of viable infants born before thirty-six weeks varies from 30 to 60 per cent. The influence of prematurity on infantile death rate is a powerful one. In treatment of a maternal complication so great as eclampsia the mother must be considered first. The factors controlling infantile mortality are complex and include not only the effect of maternal toxins but also premature birth; effects of drugs given mother; the method of delivery; and the loss of ideal food for the new born—which is breast milk.

If elimination fails to prevent convulsions and surgical treatment is resorted to, I personally believe the so-called Cesarean section is the operation of choice in place of manual dilatation and high forcep application.

The idea that child-birth was a normal function has been taught the public and believed by so many of our profession that we fail to give the patient proper attention.

An obstetrical case is distinctly a surgical case with more than the usual surgical aspects. Not only is the delivery to be considered but also the repair of damage and the complications that oc-

cur with delivery. The frequency of injury to the pelvic floor points specifically to surgery and this one phase of obstetrics alone calls for more than the care a mid-wife or a half prepared student. Every case of repair should be carefully attended to like any other operation.

I shall class the complications of labor under three heads:

- (a) Anomalies of power.
- (b) Disproportions between birth canal and child.
- (c) Complications on part of mother or babe.

Anomalies of Power—The pains may be too strong, too seldom or too frequent—too short or too long—too irregular, or too painful, all these conditions occur in the first stage of labor and are disturbances of uterine action alone. During the second stage of labor we have involvement of abdominal power due to (1) weak muscle; (2) intraabdominal conditions such as appendicitis; (3) to hernia; (4) to heart or lung disease. A prolonged second stage in labor as a rule is not dangerous to the mother or babe unless it exceeds six or eight hours. When beyond this time there is danger of asphyxia to the child and of a fistula developing between the birth canal and the adjacent structures in the mother, due to pressure necrosis.

Disproportion Between Birth Canal and Child produce many complications, and unless there is interference of some kind these cases are of long duration. Extreme pressure upon the child produces many times intra cranial injuries with hemorrhage into brain tissue and tears of the membranes, causing the child's death. The mother often suffers post partum hemorrhages with uterine inertia. Again in prolonged labor the risk of infection is increased. Of the many presentations I shall say little as the mode of procedure must be determined by the judgment of the attendant.

Anomalies on Part of Mother and Babe—The babe presents many complications due to the position in which it presents. Allowing that all measurements are in proportion, among the faulty presentations I consider a breach the most delicate to handle. During the past few weeks I encountered two presentations of a trying nature—one a breach—the other a transverse with a prolapsed cord. In both cases I chose to deliver the after coming head with forceps. We have been taught to extract the babe rapidly or within eight minutes because of fear of asphyxia of the babe. I think this an error as we often make too much traction on a weak vertebral column and draw apart the vertebra and injure the central nervous system. The result is a dead babe. I must admit

that forceps on an after coming head outside of a hospital and without experienced help is a trying ordeal.

Deformed babes and babes with heads that are over large set up many difficulties. Again a bony deformity in the mother's pelvis, fibroids, and previous surgery, offer many complications.

Placenta previa is one of the most serious complications, it requires early diagnosis and early surgical treatment to offer anything safe for both patients. A painless, causeless hemorrhage late in pregnancy is pathognomonic of placenta previa. This hemorrhage may be only a few drops or may be severe. Continuous bleeding usually produces a secondary anemia, which make these patients bad surgical risks.

In cases of placenta previa we have definite methods to follow. All patients should be sent to a hospital at once when a definite diagnosis is made. Empty the uterus at once unless the bleeding is extremely slight. If babe is near the border of viability and the patient remains in bed with everything ready for a hasty delivery, we can quite safely watch the case until the prognosis for the babe is surer.

If we come upon a case without warning, and the bleeding is excessive, we must resort to tampon of the uterus to control the hemorrhage until we are better prepared to care for the same.

In my own practice in the past thirteen years I have kept a record of all confinements, not including the miscarriages. I can assure you that it is the very ordinary record of a country physician's practice. I regret that I have no personal data on the months of gestation as well.

My data is as follows:

Total number cases, 450.

Those without interference at time of delivery, 351.

Forcep deliveries of high and low type, 32.

Twin pregnancy, 6.

Premature births, 4.

Deformities or monstrosities in new born, 5; consisting of 2 cleft palates, one hydrocephalus, one hematoma beneath scalp, and one with a closed urethra.

Breach deliveries, 10.

Placenta previa, 1; delivered by Cesarean section.

Milk leg, 3.

I have had seventeen deaths in babies at birth without the loss of a mother, except in one case in which the mother was in the mid part of a lobar pneumonia.

In closing I wish to suggest that we make a better study of obstetrics, give our expectant mothers more consideration in the early months of pregnancy and make their period of gestation as pleasant as possible by preventing the disagree-

able conditions that arise. Give them and the general public to understand that it is a serious thing to raise babies, and these patients are entitled to the very best medical, surgical and hospital care. At the same time we will do a service for the unborn baby, ushering it into the world in good mental and physical condition and thus better the social condition of the community in which we live.

SOME REMARKS ON THE ETIOLOGY AND TREATMENT OF PUERPERAL ECLAMPSIA BY THE TWEEDY METHOD*

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I think all men who have practiced obstetrics for any length of time will admit with me, that one of the most disastrous complications that can develop during the pregnant period is that of puerperal eclampsia. The various theories and methods of treatment to be found in the literature also bears out the fact that no one method of treatment has thus far been found that is satisfactory, so far as saving the lives of both mother and child.

As for my own experience, and it has not been a small one—as I have to date delivered almost sixteen hundred babies—I always feel more helpless in treating these cases, after the convulsions have developed, than any other pathologic condition that I encounter.

I was taught, where I graduated, in Boston, that the first object to be accomplished was to empty the uterus, and, if labour had not started at the time of the convulsion, to force the delivery, even if artificial dilatation had to be done, with delivery by high forceps or version. Then the hot pack, purgation, venisection and introduction of normal saline into the veins; keeping the convulsions under control by use of chloroform, bromides and chloral; protecting the tongue by means of the mouth gag; and, should this not suffice, signing a death certificate for mother or baby, or both. I was warned against the use of morphine, as that locked up the secretions, and was the worst thing I could use. At times we used veratrum viridi subcutaneously to lower the blood-pressure. By following the above outlined method, if I succeeded in having the case in my hands before the convulsions started, I could usually save both patients, if the babe was near term. If, however, the convulsions had started, the death rate for the mother would be around 30

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per cent, and of the child 45 to 50 per cent. This percentage was higher than in the cases I treated from the start, as many cases included in the above rates had had from three to ten convulsions before they came under my care.

You can imagine my feelings of relief, when, in the spring of 1920, while visiting a classmate in Boston, who had just returned from taking a post-graduate course in obstetrics at the Rotunda Hospital in Dublin, when he told me of the method used there by Dr. Tweedy. He told me that in a list of nine thousand births, there were more than 100 cases of eclampsia without a single death among those who were in any satisfactory condition at the beginning of the treatment. He explained the hypothesis of Dr. Tweedy as well as his treatment, and my own results have born out his report. Since then I have had six cases of eclampsia without a death in the mother, and only one death in the child, and that a premature infant, less than seven months, a case that was referred to me by Dr. Crowley, who first knew about and first saw the case the evening before, after she had had the first convulsion, and who had also had several other convulsions between that time and the time she came under my care.

I will try and give as brief an outline of his hypothesis as to etiology and treatment as possible. We all know that the theories of this condition are many, but all of the observers are of the opinion that it is a toxemia brought on by the presence of the unborn babe within the mother's uterus. This toxin is circulating in the mother's blood, and the distinctive changes found throughout the body are due to the actions of this toxin. The theories as to the formation of this toxin are too numerous to name in this paper. Dr. Tweedy's idea is, and he has brought forward evidence to show, that food is the determining factor in eclampsia. We know that certain foodstuffs disagree with certain people, though they are harmless to others. Even the capacity of an individual to assimilate a certain food changes so that a food which at one time may be taken with impunity, at another time acts as a virulent poison, and such changes are not uncommon in pregnant women. It is well known that all foreign proteins must be changed by the ferments of the body before they can be assimilated, and if they are absorbed without undergoing such change they act instantly as virulent poisons. He believes eclampsia is to be explained in this way; the toxins derived from the chorionic villi of the ovum, under certain conditions, inhibits the ferments of the mother, which should prepare foreign proteins for assimilation, and the absorp-

tion of these foreign proteins in this unprepared state is the determining factor in eclampsia. He admits that this theory is as incomplete as that which makes the toxin the direct cause of the disease, but a careful study of his cases, has made him feel confident that it is so, and he cites cases where convulsions have recurred a few moments after the patient has taken only a cup of milk, and a colleague, Dr. Gibson, of Coombe Hospital, has reported similar cases. The Rotunda Hospital reports relate many instances of severe convulsions following immediately on the patient's taking of food, showing that the poisoning was due to the food, and not to its irritative action or to putrefactive changes in it. In other words, he looks upon eclampsia as a form of anaphylaxis.

His outline of treatment is so radically different from most other forms, and it is so important that each step be carried out in sequence, that I will give you his own words as to it.

The Pre-eclamptic Stage

As soon as ever any of the warning signs or symptoms of eclampsia are recognized in a pregnant or puerperal woman treatment should be started. The patient is put to bed, and given a purgative, consisting of a drachm and a half of compound jalap powder, or two ounces of castor oil, or three ounces of compound senna mixture. She is then given a large soap-and-water enema, as much as three pints being injected into the rectum. Her urine is examined for albumen, and if it is present a linseed poultice is applied to her loins, and changed every four hours. She is given plenty of water to drink. The patient is not allowed any food whatsoever, not even milk, and this rigid starvation is continued until the bowels have moved naturally, and the symptoms have improved. The return to food must be gradual, only small quantities being given, and their effect on the symptoms of the patient must be carefully watched. In the great majority of women this treatment will prevent the occurrence of eclampsia, and the patient will quickly lose all the warning symptoms of the disease.

The Eclamptic Stage

The woman is put to bed and half a grain of morphia sulphate together with one one-hundredth of a grain of atropine sulphate, is administered hypodermically. If she is conscious she is given a purgative, consisting of one and a half drachms of compound jalap powder, or two ounces of castor oil, or three ounces of compound senna mixture. After this she is made to drink copious draughts of plain water. If she vomits the purgative, a second dose should be given fifteen minutes later. If the patient is unconscious, or intractable, we wait for fifteen minutes, to allow her to come under the influence of the morphia, and then we pass a stomach tube. The stomach tube should be lubricated with glycerine, or with

warm water. The patient's mouth must be kept open by a gag placed between her jaws, and a finger be passed well to the back of her tongue. The tube is quickly inserted into the oesophagus, being guided into position by the finger in the mouth. The stomach is washed out with warm water. A pint of warm water is poured into the funnel of the tube, which is then lowered over a bath on the floor, and the fluid allowed to flow out by siphon action. This washing out is continued until the fluid returns quite clear from the stomach. Not more than half a pint of water is left in the stomach. Before withdrawing the tube we introduce through it into the stomach two ounces of castor oil, with three drops of croton oil. Castor oil is so viscid that it does not pass readily down the tube. One can make it run in by pouring a little hot water on top of it, and then squeezing the tube between the fingers and thumb from the funnel downwards, as one withdraws the tube.

The patient is turned on to her right side, and a long soft rubber tube, lubricated with glycerine, is pushed through the anus high up into the rectum. We pass twelve inches of the tube into the rectum, for the higher the tube passes the more of the bowel is cleansed. If one allows water to flow through the tube while it is being passed it makes its progress easier, as the flowing water opens the lumen of the bowel. The bowel is washed out with warm water, precisely as the stomach was washed out, using a pint of water at a time, and continuing the washing till the faeces stain the return flow. The process is tedious, and it may take half an hour before any sign of faeces is seen in the water returning from the bowel. About one pint of water is left in the bowel when the tube is withdrawn.

A hot linseed-meal poultice is applied to the loins, and this is renewed every two hours. Care must be taken that these poultices are not too hot, for a temperature that will not injure the skin of a healthy woman may do damage to the skin of one with eclampsia.

A catheter is passed and the bladder emptied, the urine being preserved for examination.

If the patient is profoundly unconscious a pint of sodium bicarbonate solution should be infused under each breast. This solution consists of a drachm of sodium bicarbonate to a pint of water. The temperature of the fluid should be between 110 degrees and 115 degrees F., and the strictest aseptic precautions should be taken, otherwise extensive infection and sloughing of the parts may follow. If the patient does not recover consciousness within eight hours, the infusion into the breasts should be repeated.

The woman must always be kept lying on her right side until she is quite conscious. This is of great importance in comatose, or semi-comatose patients, as it enables the saliva to trickle into the cheek and not out of the mouth, and prevents the tongue from falling backwards and obstructing respiration. If she lies on her back the saliva tends to flow into the larynx and trachea.

If the fits recur, a quarter of a grain of morphia should be given two hours after the previous dose. The dose may be repeated again in two hours if necessary, and up to two grains may be given in the twenty-four hours. It is not necessary to repeat the atropine with each dose. Sometimes the respirations fall to six in the minute. This is a warning that the administration of the drug should be stopped. If it is, no evil result need be apprehended.

Nothing is to be administered by the mouth till she is quite conscious, for swallowing is in abeyance, and if anything is given it is quite as likely to go into the larynx as into the stomach.

A gag should not be used, except to prevent the patient biting her tongue during a fit, or while the stomach tube is being used, for it is difficult to swallow if the mouth is kept open with a gag.

If the heart shows signs of failing, twenty drops of brandy, or whisky, with one one-hundredth of a grain of digitalin, should be given hypodermically. Failure of the heart is of most serious import, for we are able to do little to restore its activity.

No food whatsoever should be given to an eclamptic patient till she has been conscious, and free from fits, for at least twenty-four hours. After that small drinks of albumen water may be given, and their effect carefully watched. Milk in any form appears to be particularly harmful to these patients.

The eclamptic should be kept in a dark, noiseless room, and should not be disturbed. A skilled attendant should remain with her constantly and should be instructed in the use of the gag to prevent the biting of the tongue when a fit recurs. An hourly record of the patient's pulse should be kept, and a careful report as to the condition of the heart, and the recurrence of fits. In this way the woman may be left for eight hours, after which time, if her condition shows no improvement, a pint of bicarbonate of soda solution should be again infused under each breast. If her bowels have not moved spontaneously as a result of the purgative, the bowel should be washed out as before, a catheter passed, and the urine measured and examined.

At the end of a further six hours, if the bowels have not acted spontaneously, five grains of calomel, with three ounces of compound senna mixture should be given. If she is still drowsy, or unconscious this should be given through the stomach tube. We are not satisfied unless the patient's bowels are moved from four to six times during the twenty-four hours.

The attendant in charge of an eclamptic should be an experienced and capable person, and should thoroughly understand how to perform artificial respiration, and how to administer oxygen. Either of these procedures may be necessary. Should the breathing cease at any time, either during or between the fits, the patient's head should be at once drawn over the edge of the bed, with her face downwards, and her lower jaw pulled outward. This allows the mucus, which is often the cause of the obstructed respiration, to escape from the larynx. Should respiration not start spontaneously, artificial respiration must be begun at once.

If at any time during the attack the patient falls into labour, and the os is fully dilated, delivery should be effected as quickly as possible, either by the forceps or by extraction of the breech.

If the child has been born during the attack, the subsequent treatment is similar to that recommended for a patient with severe albuminuria. As a rule, the urine changes to normal, or almost to normal, in a remarkably short time. We have seen urine loaded with albumen, and with epithelial and granular casts in abundance, change to a clear, limpid, and abundant urine, with merely a trace of albumen, within twenty-four hours of the cessation of the fits. The patient should be kept on a light diet for a week after the disappearance of all albumen from the urine, and should remain in bed for a fortnight after the urine has become normal.

Sometimes paralysis, loss of eyesight, mania, or stupidity, remain as temporary or permanent sequelae of the attack.

You can thus see that this outline of treatment differs considerably from that usually followed by most of us in the past. He does not mention in his outline as above the accouchement force, vapor baths or hot packs, the use of chloroform, and venesection. Not only does he omit to mention them, but further along in his work he says under the heading, "Lines of Treatment to be Avoided:"

Accouchement force comes first. Many of our patients recovered from eclampsia and carried their children for considerable periods afterwards. I do not like to see labour occurring during the seizures, but should it do so, the os rapidly dilates. When fully dilated, delivery may be expedited with forceps, but, as a matter of fact, I have seldom found forceps application necessary. Delivery is usually easy, and there is considerable difficulty in conducting an aseptic artificial delivery in these cases; for this reason, if for no other, spontaneous delivery is preferable. I would not permit a patient to die undelivered, and if death threatened would perform vaginal Cesarean section.

Vapor baths and other means to promote diaphoresis are obviously improper procedures. Eclamptics are suffering from paucity of fluid in the circulation, and this in spite of their tissues being possibly solid with edema. What is greatly wanted is a less saturated condition of the blood, and it is impossible to suppose that profuse sweating can have any other action than to increase this abnormality. Only a minimum of toxins (if any) can be eliminated by sweating.

Chloroform is closely associated in its effects on the liver and other organs with the eclamptic poisons. I have long learnt to dread this anesthetic in all toxic conditions. Stroganoff, however, thinks that his patients benefit by the quiet induced with very small doses of chloroform (12 to 15 drops) during any manipulative interference, and if by this dose he facilitates the passage of the stomach tube,

or lessens the struggle during submammary infusion, he has achieved a great advantage at a cost which I cannot think is excessive. Had I known of his method, it would certainly have been tried by me. It will not, I think, materially alter statistics, but it should be remembered as a possible aid to treatment.

The withdrawal of considerable quantities of blood from a vein in an eclamptic patient has many advocates. We do not recommend it, for bleeding depresses the heart, and failure of the circulation is one of the most fatal symptoms of the disease.

I have, personally, added instead of bleeding, the reduction of blood-pressure by subcutaneous use of Norwood's tincture veratrum viride, in doses large enough to bring blood-pressure down to safe level, and repeated it often enough to keep it there, while in the pre-eclamptic states I have for years used thyroid extract, watching carefully for the nervous symptoms produced by over dose of that drug.

In conclusion, I do not for one moment suggest that all patients will recover from eclampsia in the future. Fits—epileptic, uraemic, or eclamptic—have always an element of danger apart from the actual disease. The resultant high blood-pressure may cause hemorrhages into the brain, liver, or abdominal cavity. Such an occurrence has recently been reported by the present master of the Rotunda Hospital, who, on opening the abdomen preparatory to the performance of Cesarean section, found it filled with blood.

No other disease better repays the attendant for personal supervision. There is no detail of treatment that does not require a careful practical training in its carrying out. Even in passing the stomach tube special skill is requisite. Bowel lavage, submammary infusion, and the clearing of mucus from the pharynx are all highly technical procedures, a perfect mastery of which should not be assumed on the part of those placed in charge.

Patients with profound toxemia make a tedious recovery. Elimination is always slow. Heart failure may supervene although no new poison may be added to the blood. For these reasons a certain number of deaths must be expected. Nevertheless, it is impossible any longer to pretend that the treatment of eclampsia is either empirical or useless.

Of course, six cases treated by any form of treatment makes too small a number to base any definite findings upon, but knowing my classmate as well as I do, and knowing him to be a man who does not loose his head over anything new that is brought out, I feel there must be something to this method besides theory.

My chief reason for bringing this paper up before you, was a request from Dr. Crowley, your secretary, who brought to me the last case I had, and she was certainly a desperately sick woman. When she reached the hospital she was in a convulsion, and had had several on the train coming to the Falls. Her blood-pressure was 200 sys-

tolic by 145 diastolic; with a pulse of 120, rectal temperature 102.4 F., and Dr. Crowley, as well as myself did not think she could last until dark. However, as soon as she came under the effects of the opiate, and we had finally cleared the colon of feces—and we used gallons of sodii bicarbonate water to do so—she quieted down and had no more convulsions, in spite of the fact that she did not go into spontaneous labour until noon two days later. The babe was too far premature to live, had I forced delivery when the mother came in. This patient also, unquestionably, had an old nephritis before becoming pregnant, and had been troubled with constipation for years, often going three or four days without a defecation. This latter was shown to us by the fact that the colon was fairly loaded when we started treatment, as she practically filled one bedpan and half of another. Examination of the urine showed 18 per cent plus of albumen, and the presence of all kinds of casts. Though I had her in the hospital for ten weeks, when she returned home she was carrying a trace of albumen; hyaline, finely and coarsely granular casts and some fat droplets; the urea and chlorides were diminished, in fact total solids were much reduced. The functional kidney test showed only about 55 per cent excretion in two hours time. Her blood-pressure also stayed up around 135 to 140 mm. constantly in spite of carefully regulated diet, and the use of fair sized doses of thyroid extract combined with iron. In fact, I feel that had I treated her by the old methods I would have had two deaths instead of one. I certainly feel that if this line of treatment is carried out carefully that most cases will recover, though, as I said before my personal experience is limited to six cases.

My other cases, that I had from the start, were all but one delivered in pre-eclamptic stage; by accouchement force, one even by Cesarean section, and this case was so near the ragged edge, that the baby had a convulsion within two minutes from the time Dr. Cottam, who operated for me, removed the babe from the mother through the abdominal incision. In spite of this, both mother and babe made a beautiful recovery, though she was so oedematous that we could not reach the cervix with one finger by vaginal route. Most of my bad results were in cases that I was called in on consultation during the convulsive attacks.

Any member of this Society who wishes to investigate this further can do so by reference to the text-book, "Practical Obstetrics," written by E. Hastings Tweedy and G. T. Wrench, published by the Oxford Medical Publishing Company, and secured through the American Branch at New York City.

PRESENT STATUS OF INSULIN TREATMENT*

CHARLES A. WATERBURY, M.D., Waterloo

That iletin, perhaps to be more commonly known as insulin, has emerged from its experimental laboratory existence and has become, not a specific for diabetes as antitoxin is for diphtheria, but a therapeutic agent of perhaps tremendous future possibilities is a foregone conclusion.

Insulin is now fairly well standardized as to potency free from irritating proteins and available in quantity sufficient to meet all legitimate demands, and if we are to use it intelligently and successfully with favorable results, it is worth our while to discuss its merits and it is for this purpose that I give you a brief review of the literature up to this time, and what information I have been able to gather from various sources regarding the clinical results from its use since its release to the medical profession.

The inspiration for the research work done at the University of Toronto culminating in the discovery of insulin which is a hormone extracted from the Isles of Langerhans, was the well grounded but unproven belief among physiologists and research workers, that the pancreas had an internal secretion which controls carbohydrate metabolism.

From an article by Baron on degenerative changes of the pancreas following ligation of its ducts, in which he showed that it was the acinous and not the islet tissue which degenerated. F. G. Banting working in the laboratory of Prof. J. J. B. MacLeod, conceived the idea of preparing an active extract of islet tissue from degenerated pancreas. With the approval of Prof. MacLeod this work was begun in May, 1921, by F. G. Banting and C. H. Best.

Assuming from the work of previous investigators that the Isles of Langerhans alone control carbohydrate metabolism, either as detoxicating stations for blood passing through the pancreas, or by reason of a true interval secretion, they attempted to prove the latter hypothesis in the following manner:

From dogs whose pancreatic ducts had been ligated seven to ten weeks prior, the pancreas was rapidly removed under Lethal anesthesia, quickly sliced into a chilled mortar containing Ringer's solution, then placed in a freezing mixture and the partly frozen gland thoroughly macerated, then filtered and the filtrate after being

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warmed to body heat was injected subcutaneously into dogs previously rendered severely diabetic by complete removal of the pancreas. In these dogs, using a large series, they were able to conclusively demonstrate:

1. A marked lowering to normal or below of the blood sugar.

2. And a corresponding decline of the sugar content of the twenty-four hour urine.

Also marked improvement of their dogs' clinical conditions. One dog was kept alive and well for ten weeks and then killed for autopsy. The life of an untreated depancreatized dog being two to three weeks.

Having thus demonstrated an anti diabetic hormone from the isles of degenerated pancreas, they next undertook to isolate it from the unde-generated gland.

Ibrahim having shown that proteolytic enzymes are absent from the foetal pancreas under four months, they began work with foetal calves of less than five months' gestation, and obtained equally good results from this extract upon diabetic dogs.

Next, using alcohol as an extracting agent to prevent the destructive action of trypsin, they were able to obtain the hormone from the pancreas of a full grown ox, which product, after careful conclusive dog work, was administered to a severely diabetic boy fourteen years of age, reducing his blood sugar 25 per cent and greatly improving his clinical condition.

The serum was, however, irritating and they were confronted with the problem of preparing a pure extract and some means of physiological assay to determine a standard of dosage.

The first problem was solved by fractional precipitation in alcohol, and the solution of standardization by the discovery that insulin will rapidly lower the blood sugar of a normal rabbit.

In their work Banting and Best established as a unit of dosage the amount of insulin that will lower the blood sugar of a normal rabbit, weighing 2 kg. from which food has been withheld for sixteen to twenty-four hours, to .045 in four hours time.

The reason that .045 was chosen is because they found that if the blood sugar was reduced below this point the rabbit developed severe convulsions, alternating with coma, and died unless given dextrose subcutaneously gm. for kg. which restored them immediately.

Realizing from this that insulin danger equalled its therapeutic value a way to prevent commercial exploitation and to insure a pure standard product had to be found while continuing their clinical and physiological investigations.

Assisted by Noble, Hepburn and Latchford they were able to prove clinically:

1. That insulin will relieve hyperglycemia due to asphyxia, epinephrin and ether.

2. That insulin does restore to the diabetic power to metabolize carbohydrate.

3. That acetone bodies disappear with insulin administration.

4. And that during the administration of insulin glycogen in the liver is restored to a high level and its presence in the heart proportionately decreased.

To safeguard insulin patents were taken out in Canada, the United States and Great Britain. These were turned over to the University of Toronto as trustee, creating a committee known as the insulin committee of the University of Toronto, who have in turn licensed reputable firms to produce insulin in conformity with the standards of the University and checked in its physiological laboratory. These firms pay a royalty which goes, not to Banting and Best, but to the laboratory and research fund of the university.

For some months after the clinical administration of insulin outside of the University of Toronto began, and, working upon the information and results of the Toronto experimenters briefly outlined in the foregoing paragraphs, various clinics in Canada and the United States, have been using insulin, each treating his cases and working out his own salvation and that of his patient in his own way.

Some men, particularly at the Cleveland Clinics, were using insulin for physiological research on human cases, giving it intravenously in various doses at various intervals and plotting blood sugar, hydrogen ion concentration and other curves in various groups of cases. Others using it for actual treatment of active diabetes and tabulating clinical results.

During this period current medical literature was silent, because all were pledged not to publish any articles until after the Toronto investigators had completed publication. This ban was lifted last spring and current medical journals have of late contained a great deal of clinical data which when correlated will give insulin its proper place as a therapeutic agent and define its limitations.

However, after visiting the Eastern Clinics, picking up information available and reviewing the literature one arrives at the following conclusions: Insulin must be given subcutaneously or intravenously. All attempts to give insulin orally, by high rectal or enteric administration have failed in results.

Some severe local reactions and unpleasant anaphalactic symptoms were met early in its use

due to foreign proteids but the present product of the Eli Lilly people made from slaughter house pancreas by extraction with alcohol, precipitating and redissolving several times, finally dissolving in slightly acidulated water and passing through a Berkfield filter, standardized on rabbits and checked by actual clinical tests before release, is painless with very slight, if any local irritation and no constitutional disturbance except in the event of an insulin reaction from over dosage.

A resulting hyperglycemia signalized by the onset in rapid sequence of:

1. Nervousness and extreme hunger when blood sugar drops to .07.
2. Pronounced weakness and mental anxiety.
3. Sweating.
4. Tremor.
5. Convulsions and coma at .03 terminating in death.

These symptoms quickly disappear on the prompt administration of any rapidly absorbed carbohydrate, orange juice, sugar or dextrose. If the patient is unconscious give epinephrin 1/1000 15 min. hypo., carbohydrates by stomach tube and administer glucose intravenously.

A reaction may occur if the dose is too large. It may occur if given too long before a meal, and it will occur in a patient who has been for some time on insulin treatment who carelessly fails to take at a given meal preceded by insulin the amount of carbohydrate prescribed.

By reason of these possible reactions, the initial treatment of any diabetic should be based upon a blood sugar determination, and checked by frequent blood sugar estimations if your case is running sugar free.

Insulin does not and never will take the place of a careful and well balanced, well maintained diet. It will enable the patient to metabolize a greater amount of carbohydrate, and store glycogen. Consequently we can with insulin feed an adequate amount of various carbohydrates, rest the pancreas and build the patient into a well nourished individual with a greater resistance.

Insulin should be given subcutaneously, not intramuscularly, owing to its slightly destructive action upon muscle tissue, fifteen to thirty minutes before the ingestion of food once, twice or three times a day.

Each unit of insulin given will metabolize one to four gm. of carbohydrate in excess of the patient's tolerance.

The younger the patient, the more severe or long lasting the diabetes, the lower the carbohydrate tolerance, the more frequent the administration.

The younger the patient, the milder the diabetes, the more recent its onset, the higher the carbohydrate tolerance, the more carbohydrate each unit of insulin administered will metabolize.

Some adults will do well on one or two doses daily. Children will usually require three doses.

Some clinicians divide the dosage equally. Others give a small dose before breakfast, a little larger before lunch and the greater dose before dinner. A few give a midnight dose. Many cases of diabetes do not require insulin and case selection may be determined, not by establishing the carbohydrate tolerance by the usual starvation routine, but by placing the patient on their Basal Metabolic Diet.¹ If the case becomes sugar free on such a diet and will then tolerate 500 calories in excess of this basal requirement without material increase of blood sugar, it may be regarded as mild in type, and will do well on dietetic treatment. On the other hand, patients who cannot be safely given 500 calories in excess of their basal requirement should have insulin.

Stengel in his clinic before the recent American Congress of Internal Medicine grouped cases for insulin treatment as follows:

1. The coma case in which insulin will give almost certain relief.
2. The severe case with acidosis to whom insulin should be administered at once without waiting for blood sugar determinations.
3. The mild or severe case in whom weight is far below par and the patient debilitated.
4. All diabetics who require surgery in order to protect from acidosis.

Having determined that insulin treatment is necessary a rational procedure would be; to determine the amount of blood sugar and number of gm. of sugar in the twenty-four hour urine, and having our patient on a basal metabolic diet with proteid at $\frac{2}{3}$ gm. per kilo, established by Marsh, Newberg and Halley², as sufficient to maintain nitrogen equilibrium, increase carbohydrate and fat in the ratio of 1-3¹ and give a small initial dose of insulin (1 or 2 units) perhaps two doses the first day if blood sugar is high, increasing dosage gradually until sugar free, then increase carbohydrate and fat in proper ratio, then the insulin, stepping up carbohydrate, fat and insulin alternately, and later, proteid until the patient is metabolizing the amount of carbohydrate, fat and proteid in balanced ratio we feel he needs, with a blood sugar a little above normal and loosing at most only a few gms. or a trace of sugar in his urine on the smallest dose of insulin necessary to maintain that status, given once, twice or three times a day as is found necessary.

Patients may be and are taught to administer insulin themselves, or a member of the family may give it. All should be carefully told what the first symptoms of a reaction are and what to do. Joslin instructs all patients to carry an orange with them constantly.

The question arises, how long must the patient take insulin. Nobody knows.

The consensus of opinion is that insulin is not a specific, that it does not reach etiology or pathology and that diet and hygienic measures still remain the basis of treatment, and that insulin is but an aid in maintaining a consistent regime.

Another question—as time goes by will the patient have to take more and more insulin? That too is not determined.

However, in a series of cases shown by Dr. H. Rawli Geyelin at the Presbyterian Hospital in New York City, all being children some of whom on admission were excreting 40 gm. of sugar on a ten gm. carbohydrate intake, all having been on diet plus insulin for several months and many graduated to home treatment and all well nourished, husky looking youngsters.

In this series of cases his tabulations of results showed that many were maintaining a low blood sugar and normal nitrogen balance, with only a small loss of sugar in the urine on a high carbohydrate intake of 100 gm. or more, and receiving smaller doses of insulin than was necessary during the early weeks of treatment.

This suggests that perhaps in adolescent diabetes, or the mild adult types if the case be carefully and consistently dieted, the pancreatic rest may result in building up a tolerance sufficiently high to permit of the patient's getting along without insulin for long periods.

Insulin's greatest value is without doubt in the treatment of acidosis and diabetic coma where results are prompt and striking. In these cases large doses may be given, thirty units as an initial dose, which should be repeated every hour in a severe case, giving at the same time 10 gm. glucose in a 10 per cent solution intravenously, or glucose by proctoclysis if the intravenous method is impractical.

Pepper makes the statement that insulin will restore the acidosis or coma case without the use of alkaline treatment.

In closing I wish to briefly cite a case in point:

Case Report

Margaret, age six years, weight thirty-six pounds, diabetic since November, 1920. Carbohydrate tolerance March, 1923, approximately 10 gms. and her blood sugar .19.

Insulin treatment began in March and continued before each meal five days and discontinued on ac-

count of child's nervous condition resulting from her fear of the hypo. When discontinued she had only a trace of sugar on 30-40 gm. carbohydrate and insulin H5 21 units daily.

An attempt was made to give insulin per oram with no results from large doses and she was dismissed on diet.

On the night of May 22nd she became very ill. Vomiting, rapid, pauseless respirations, red lips and cheeks, pale, dry skin and tongue, pronounced thirst. Urine—total acidity 60; sugar 3 plus; acetone 3 plus.

She was given water freely, glucose by proctoclysis and saline by hypodermoclysis. Six hours later her condition was more alarming. Total acidity of urine higher, sugar 4 plus; acetone 4 plus. Alveolar air tension very low, 18. A reading of 20 we are told indicates a fatal termination. Blood sugar; 17 one hour after the first dose of insulin.

She was given insulin only in small doses $1\frac{1}{2}$ units, later $2\frac{1}{2}$ units, and in four hours 2 units. Vomiting ceased, respirations became less and the patient slept.

First voided specimen of urine total acidity 30; sugar 1 plus; acetone 1 plus. The day following she was put on a carbohydrate diet and given a total of ten units of insulin.

The following morning she was hungry and happy. Urine—acidity 10; sugar negative; acetone negative.

She has since been on insulin treatment five months receiving 30-48 units of insulin daily with a carbohydrate intake of 150 gm. and is now in excellent physical condition in spite of a moderately severe whooping cough during August and September.

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INSULIN IN GENERAL PRACTICE

A. L. NIELSON, M.D., Harlan

Admitting that hospital and laboratory facilities are a benefit and of considerable help in the treatment of diabetes mellitus with insulin, the fact that for numerous patients hospitalization is not feasible, makes the use of insulin without preliminary hospital supervision of diet or blood sugar determinations advisable.

Where the patient is unable, for financial or other reasons, to go to an institution for the start of the insulin treatment, it does not seem reasonable to deprive them of the benefits of the insulin.

Insulin being a powerful agent, and the danger of hypoglycemia from its overuse, or its use without proper dietary, not being slight, measures to prevent overdosage or indiscriminate dosage are necessary.

As has been repeatedly said by the authorities on insulin treatment, the use of insulin, rather

than making dietary measures less necessary, makes diet more important than where insulin is not being used.

Dietary treatment probably should still be the first treatment for diabetes, and many cases can be satisfactorily controlled by diet, leaving insulin for the more severe and intractable cases and those with complications.

Joslin says insulin should be and can be used by the general practitioner, and refers to numerous cases discharged by the hospital to their own physicians, and he also says there is no reason why any physician should not treat cases primarily if he will learn the dietary measures needed.

My method of using insulin and the associated dietary follows Joslin (J. A. M. A. 80:22:1581, June 2, 1923). A card of his "Insulin Diabetic Diets" (Form J 13, Chart 1, secured from Thos. Groom Co., Boston) is followed as closely as possible. These diets are arranged so the proportions of protein and fat are suitable, though, of course, modifications may be used. The general rule for protein for a permanent maintenance diet is 1 gm. per kilo of body weight. High fat diets have been successful and may be used, but the average patient using insulin can reach sufficient caloric intake and remain sugar free without using more fat than the diet card lists, without using more insulin than is necessary.

Having decided, after dietary regime was unsuccessful, to use insulin, I give the patient one of the lower maintenance diets, number 4, for example. Insulin is given twice daily, half an hour before the morning and evening meals, and the carbohydrate content of the diet is concentrated in these two meals, leaving the non-carbo-

hydrate food for the noon meal. The dose of insulin is one unit per dose (thus the patient receives only two units per day). Increases in dosage might be made rapidly, but to be more than safe, I increase the dose one unit, only every third day. On the diet as given above, and with this small dose of insulin, sugar will appear in the urine, and every third day the insulin dose is increased one unit, until the morning urine specimen, taken before the meal or insulin, is sugar free. When this occurs the next diet on the card, number 5, is given. Then every third day either the diet or the insulin dose is increased, depending always on the morning sugar test of the urine. When the diet approximates a sufficient number of calories for average use, the insulin dosage remains stationary and with occasional urine tests some variation in diet is allowed. After a few weeks of insulin, in a given patient, there seems to be a sort of tolerance, and dietary variations may be allowed with less possibility of a hypoglycemic reaction. This notion may be imaginary and I know of no proof for it, but it seems to be true.

The length of time that the insulin should be administered varies. My plan has been, after symptoms have disappeared and the strength of the patient is satisfactory, to give insulin in one daily dose, and to gradually reduce the dosage, endeavoring to keep the urine sugar free with diet. At this stage increase in fatty food is of service. Many patients will prefer to continue the insulin rather than restrict the diet.

Under this plan most patients will be sugar free in from six to ten days. Following increases in the diet sugar tests of the urine will show positive at times. The appearance of sugar in the urine

CHART 1—INSULIN DIABETIC DIETS

		TOTAL DIET			CARBOHYDRATE (C)							PROTEIN AND FAT (PF)					
DIETS		Carbohy- drate	Pro- tein	Fat	Calo- ries	5% Vege- tables	Orange	Oat- meal	Shred- ded Wheat	U- need- a	Po- tato	Egg	Cream 20% fat	Ba- con	But- ter	Meat	
TEST	T.D.1	181	46	44	1304	300	300	..	3	4	240	3	120	..	..	...	1
	T.D.2	101	35	43	931	300	300	..	1	2	120	3	120	..	..	...	2
	T.D.3	66	24	37	693	300	300	..	½	2	...	2	120	..	..	...	3
	T.D.4	34	15	30	466	300	200	..	..	.	...	1	120	..	..	...	4
MAINTENANCE	C1+PF1	14	15	30	386	300	...	..	..	.	...	1	120	..	..	...	1
	C2+PF2	22	19	37	497	300	100	..	..	.	...	2	60	..	15	...	2
	C3+PF3	32	24	37	557	600	100	..	..	.	...	2	60	..	15	...	3
	C4+PF4	42	29	52	752	600	200	..	..	.	...	2	60	30	15	...	4
	C5+PF5	52	32	66	930	600	200	15	..	.	...	2	60	30	30	...	5
	C6+PF6	64	44	83	1179	600	200	30	..	.	...	2	120	30	30	30	6
	C7+PF7	74	52	88	1296	600	300	30	..	.	...	2	120	30	30	60	7
	C8+PF8	84	61	94	1426	600	300	30	..	2	...	2	120	30	30	90	8
	C9+PF9	98	65	106	1606	600	300	30	½	2	...	2	180	30	30	90	9
	C10+PF10	109	66	119	1771	600	300	30	1	2	...	2	180	30	45	90	10
	C11+PF11	135	80	135	2075	600	300	30	1	2	120	2	240	30	45	120	11
	C12+PF12	159	84	135	2187	600	300	30	1	2	240	2	240	30	45	120	12

does not mean that the insulin is inefficient, and indeed, in these cases, it is an assurance that the patient is not getting too much insulin, and that there is no danger of hypoglycemia.

It is necessary to insist that the patient eat everything on the prescribed diet. Some patients; anxious to be sugar free will omit some articles of diet that they know to be carbohydrate, thus giving more possibility of hypoglycemia.

The patient or some member of the family is taught to make a Hains sugar test and to give the insulin injections. By the time the patient is receiving a caloric sufficiency he is pretty well trained in the diet. After the first several days I plan to see these patients once a week to check up on the diet, urine test, etc. A nurse trained in the insulin diet is of considerable help, but is not essential except in case of coma or other complications.

I admit that this method of insulin dosage is slow, and that larger dosages could be given, but where the patient is not under close supervision, often they live several miles in the country, the chief essential is safety, and this method is entirely without danger of hypoglycemia, and time is not often an important factor.

Insulin has proven to be a wonderful remedy in severe, intractable cases of diabetes, and its use should not be restricted to hospital cases. Nothing is claimed for this routine of treatment excepting that it is a safe method for the general practitioner, without hospital or laboratory facilities, to use.

Two case reports are presented, one to illustrate the diet and insulin dosage, and the other, a case of diabetic coma treated with insulin.

Case 1—Mrs. A. D. A., aged sixty-two. She had had diabetes for at least ten years, and had been treated with a dietary regime several times with some improvement but never became sugar free. Following an attack of dizziness, weakness, difficult respiration and vomiting, she was placed on a very rigid diet. Four weeks continuance of dietary measures did not get her sugar free and insulin was started, giving one unit twice daily, with a diet of carbohydrate 74 grams, protein 52 grams, and fat 88 grams. Increasing the insulin dosage one unit per dose every third day, on the ninth day the urine was sugar free. The diet and insulin were gradually increased and after six weeks treatment the patient was receiving about 2100 calories and insulin was being given in doses of eight units twice daily. As the general condition was satisfactory, the insulin was changed after two months treatment to one daily dose of 15 units, which keeps the urine mostly sugar free, allows of a diet sufficient to maintain nutrition and strength, and will be continued for some time.

Case 2—Mrs. C. J. C., aged fifty-six, was first seen in a comatose condition. Four days previously she had had an attack of vomiting and stomach pain, this had continued and the night before seeing her she had been "out of her head." Patient was extremely restless, moaned considerably, apparently attempted to talk but could not be understood. Respirations were typical of air hunger, rate 48, pulse 118, temperature 98.2, lung examination was negative, there was an acetone odor to the breath. As preparations were made for urinalysis, the husband volunteered the information that the patient had had sugar diabetes for four years. Urinalysis showed sugar 6 per cent, diacetic acid reaction very marked. Insulin was procured immediately and given in 10 unit doses every hour for four doses, with urine tests before each dose and with administration of orange juice as soon as the patient could be induced to swallow. After four doses of insulin urine sugar was one and one-half per cent, diacetic acid reaction less marked, and consciousness was returning. Soda bicarbonate, 15 grains was given every three hours, and digitalis begun the next day. Insulin was continued 10 units every two hours for two doses, then every three hours during the day, four daily doses, with nourishment every three hours, until the fifth day, when the urine was sugar free. Improvement in the general condition was constant. Insulin was continued, giving two daily doses of 10 units each, diet was given as in case one, increasing until sufficient calories were being received. Progress was satisfactory and the present condition is good, with the patient still receiving two daily doses of insulin.

INSANE HOSPITAL AT INDEPENDENCE

By Gershom H. Hill, A.M., M.D.

The second hospital for the insane was provided for by the Twelfth General Assembly. Hon. W. G. Donnen, then senator from Buchanan county, was active and succeeded in having it "located on suitable ground within two miles of Independence." Hon. Geo. W. Bemis was a suitable citizen of Independence to become the local member of the building commission. The other two capable men were Marturin L. Fisher and Erastus G. Morgan, president of a bank in Fort Dodge. They met in June, 1868. Colonel S. P. Shipman of Madison, Wisconsin, was employed to prepare plans, which after being examined and modified by Dr. Ranney, were adopted. As appropriations made by the twelfth and following assemblies became available, the institution was erected and occupied piece-meal. The central portion, occupied by the officers, and directly in the rear the kitchen, laundry and heating plant were at the same time as the north wing of the

institution finished and occupied as soon as possible. This institution fronting toward the east and the Rock Island railroad track, known as the main building, was not completed and occupied for many years. Afterward cottages were added, not only to be occupied by patients, but store houses and shops of various kinds have been built, until the hospital at Independence is quite like the other three hospitals in its ability to classify patients and to treat and cure them in a most up-to-date manner.

DR. ALBERT REYNOLDS

By Gershom H. Hill, A.M., M.D.

Dr. Albert Reynolds was born at Grand Island, Vermont, in 1837, and died in Clinton, Iowa, February 23, 1899. His education in letters and in medicine was acquired in his native state. He served two years as a volunteer in the Civil War. While Dr. Edwin R. Chapin was superintendent, and Dr. Carlos F. MacDonald an assistant physician, he was a member of the staff of the Kings County Lunatic Asylum at Flatbush, New York.

He located in Clinton, Iowa, in 1867, and there married Miss Sarah Rogers, a teacher and a member of a prominent family of the State of New York.

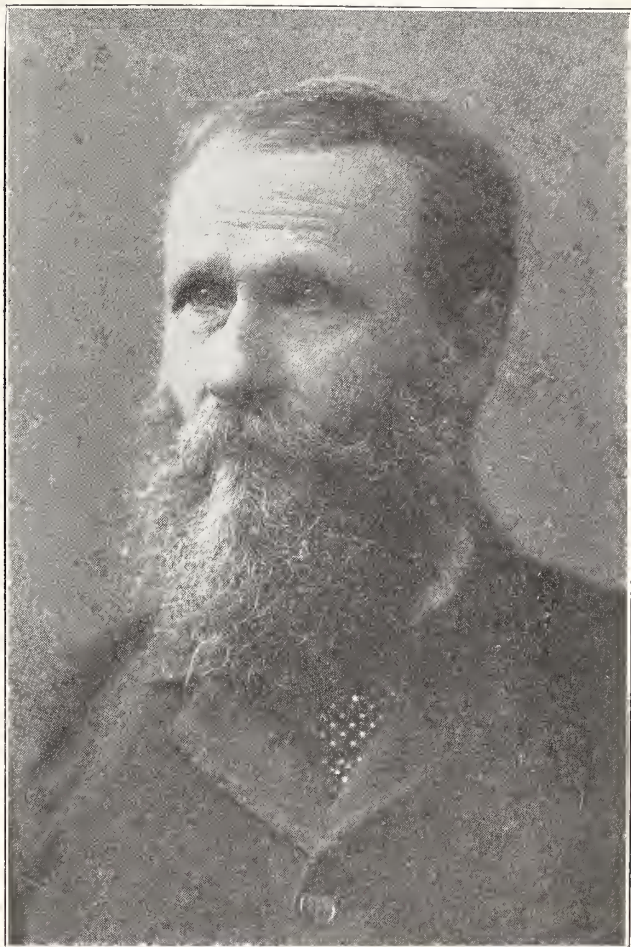
In 1873 he became superintendent of and opened the state hospital for the insane at Independence.

After a faithful and successful service, he retired from office in 1881 on account of failing health and resumed private practice in Clinton. He continued in the active practice of his profession until a few weeks before his death. He lectured upon insanity in the medical department of the State University of Iowa for several years.

Dr. Reynolds was well prepared and qualified to stand at the head of this new and excellent institution. He was good sized, good looking, and a good example for his associates. Even more, he was naturally and always a gentleman. He had self-respect and was patiently respectful to everybody. He was the personification of good common sense. He was always busy in his office, in the wards, and, on occasion, on the streets engaged in various affairs. He chose to spend his evenings in the study of scientific subjects or taking turns with his wife in reading aloud books of art, biography, fiction or history. Dr. Reynolds was devoted to his two sons; one of whom became a lawyer and the younger a physician who is now a psychiatrist in charge of a government hospital in Boston, Massachusetts.

The subject of this sketch was never active in politics. Men in the hospital and in the City of

Independence hardly knew that Dr. Reynolds generally in county, state and national affairs voted the democratic ticket.



DR. ALBERT REYNOLDS

Early in life he chose to attend the Episcopal church, but after marriage he enjoyed attending and supporting the Presbyterian church in company with his admirable wife.

GERSHOM HYDE HILL, A.M., M.D.

By D. S. Fairchild, M.D.

Dr. G. H. Hill was born at Garnavillo, Clayton county, Iowa, May 8, 1846, the son of James Jeremiah Hill, who came to Iowa in 1844 and settled in Garnavillo. James J. Hill was born in Phippsburg, Maine, in 1815; prepared for college at Bridgeton Academy and graduated from Bowdoin College in the class of 1838. He prepared for the ministry at Andover Theological Seminary in 1843. In the spring of 1844 he married Miss Sarah Elizabeth Hyde, the daughter of a deacon of the Old South Church, Bath, Me. Their wedding trip was a journey down the Ohio river to St. Louis, up the Mississippi river to Dubuque by steamboat, and across the country to the vill-

age of Garnavillo, where Dr. Hill was born in 1846. In 1849 the Rev. James J. Hill moved to Albany, Illinois, where Mrs. Hill died May 27, 1853. In September, 1854, Rev. James J. Hill married Sarah Wells Harriman of Great Falls, New Hampshire.

Rev. Hill began his ministerial duties at Garnavillo and continued preaching in several places until 1860, when he moved to Grinnell for its educational advantages. His two older sons, Gershon and James graduated in the class of 1871, receiving A.B. degrees. Rev. Hill continued active church duties until the time of his death, October 29, 1870.

The founder of the Hill branch was Peter Hill, who came from the west of England in 1653. Four generations later brings us to Judge Mark Langdon Hill, the grandfather of Dr. G. H. Hill, the subject of this history. On his mother's side Dr. Hill descended from Major Elijah Hyde, who commanded a regiment of Light Horse which did active service during the Revolutionary War.

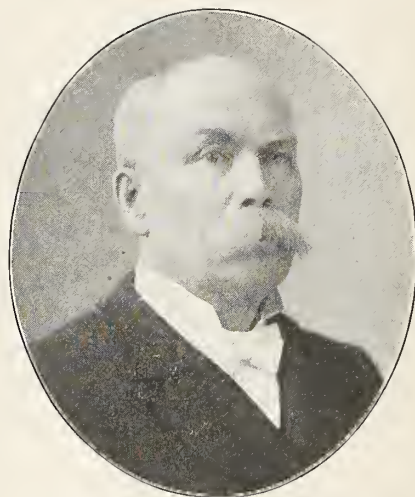
We have thus briefly outlined a history of Dr. Hill's immediate ancestry in the belief that a vigorous, upright and independent line of inheritance has an immense influence in determining the character of a long line of descendants.

Dr. Hill's younger brother, Rev. James Langdon Hill, became a distinguished minister of the Congregational Church in Salem, Massachusetts. It was the privilege of the writer to visit the Rev. James L. Hill at his home in Salem in company with Dr. G. H. Hill. We were then deeply impressed with the thought just expressed, of the great influence wrought on the character of New England by the immigration of God-fearing men and women from Old England, who came to a new world to worship after their own conscience and to build new communities. They were a stalwart race.

Dr. Hill, as already stated, received his A.B. degree from Iowa College (Grinnell College) in 1871 and ten years later the A.M. degree. In 1874 he obtained his degree of Doctor of Medicine from Rush Medical College, Chicago. In 1878 he pursued a graduate course at Bellevue Hospital Medical College, New York, and in 1890 at Harvard Medical School, Boston. On completion of his literary and medical courses, Dr. Hill began the practice of his profession at Moline, Illinois, until December 1, 1874, when he was elected assistant superintendent of the State Hospital for the Insane at Independence. After seven years service as assistant superintendent, on November 1, 1881, he was elected superintendent, which position he held until 1902, when he re-

signed and engaged in private practice in Des Moines, as alienist.

In 1905, associated with Dr. J. C. Doolittle, he opened a private hospital for the treatment of nervous and mental invalids. Dr. Hill was fortunate in securing a beautiful old homestead in the residential part of Des Moines, formerly owned by Mr. Callanan, comprising forty acres of woodland and park. In addition to the large and beautiful house erected by Mr. Callanan, suitable buildings have been erected for a large number of patients. The institution is now known as "The Retreat." For nearly twenty



DR. GERSHOM H. HILL

years this institution has been conducted with marked success. Dr. J. C. Doolittle has been succeeded by Dr. Russell Doolittle.

Dr. Hill has been active in medical society work. For many years he was president of the Buchanan County Medical Society, he was also an early member of Austin Flint-Cedar Valley Medical Society and at one time its president. He is a member of the Polk County Medical Society, a member of the Iowa State Medical Society since 1877, a Fellow of the American Medical Association. In addition to the above named societies, he is a member of numerous special societies, the Des Moines Pathological Society, the American Academy of Medicine, American Medico-Psychological Association and the Congress of American Physicians and Surgeons. Dr. Hill is also a member of the Methodist Hospital staff.

On January 9, 1879, Dr. Hill married Louisa Bliss Ford at Lynn, Massachusetts. Their only child, Julia Ford Hill, was born at Independence in 1886. She graduated from Grinnell College 1908 and from the Medical School of Drake University 1913.

Dr. Hill for sixteen years was lecturer on mental diseases at the Iowa State University, and for

ten years professor of mental diseases in the College of Medicine, Drake University.

Since graduating in medicine, Dr. Julia Ford Hill has engaged in laboratory work and post-graduate work, the last of which was under the direct supervision of Dr. Barrett in the Psychopathic Hospital at Ann Arbor, Michigan. She is now a member of the medical staff of "The Retreat," devoting herself to Occupational Therapy, where she directs the manual training or work done by patients in shop department.

By Gershon H. Hill, A.M., M.D.

The Insane Hospital at Independence was opened in 1873 with Dr. Albert Reynolds superintendent and Dr. Gershon Hill assistant superintendent in 1874. In 1881 Dr. Reynolds resigned and was succeeded by Dr. Hill, who served until 1902. In 1895 a laboratory service was organized under the direction of Dr. Albert M. Barrett. In 1898 the work of the institution was reorganized, with laboratory investigation as an important factor in administration and treatment.

From the period of reorganization, the Independence Hospital, in common with other institutions of a similar character, assumed the functions of a real hospital for the care and treatment of the mentally afflicted.

PHILADELPHIA ACADEMY OF SURGERY

The Samuel D. Gross prize, \$1,500.00.

Essays will be received in competition for the prize until January 1, 1925.

The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens."

It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page it shall be stated that to the essay was awarded the Samuel D. Gross prize of the Philadelphia Academy of Surgery.

The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 19 S. 22d street, Philidelphia," on or before January 1, 1925.

Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bear-

ing the same motto, containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The committee reserves the right to make no award if the essays submitted are not considered worthy of the prize.

William J. Taylor, M.D.,
John H. Jopson, M.D.,
Edward B. Hodge, M.D.,
Trustees.

MEDICAL SCHOOL FOR NATIVE PHYSICIANS IN SOUTH AFRICA

"The Rand Daily Mail states that a medical school for native students will come into existence the present year at Fort Hare, where preliminary education in the fundamental sciences of the medical course will be given for two years, followed by a three year course in clinical work at the Durban native hospital. To secure registration by the South African General Medical Council, native students entering on this course must first matriculate, then follow a five-year course similar to that in operation in the medical schools of Great Britain. Several natives who have matriculated and were about to complete their studies oversea have signified their intention of taking the course in Africa. They contend that in this way they will come into contact with the maladies that are most prevalent among natives in their home surroundings.—Journal A. M. A.

LOSSES OF THE FRENCH ARMY IN THE GREAT WAR

The total losses of the French army amount to 1,325,000 men. Approximately 673,000 were killed by the fire of the enemy, and 225,300 were listed as "unaccounted for, presumably killed," making a total of 900,000 killed; 250,000 died from wounds and 175,000 as a the result of disease. The immediate losses in killed amounted to 60 per cent of the total number of deaths; the remaining deaths resulted from wounds or disease. The losses due to the fire of the enemy (the killed and wounded who died from their wounds) amounted to 86 per cent of the total losses; losses due to disease represent less than 14 per cent of the total.—Journal A. M. A.

RESTRICTING NUMBER OF MEDICAL STUDENTS IN NORWAY

"The Norwegian government, according to the Ugeskrift for Laeger (July 12), has ordered that the registration of medical students at the University of Christiania shall be limited to sixty a year.—Federation Bulletin.

The Journal of the Iowa State Medical Society

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IOWA STATE MEDICAL SOCIETY

The Iowa State Medical Society presented the ordinary features of interest at its last meeting. It may be said that throughout the entire history of the Society, the papers and discussions have reached a high general average. To one familiar with the language of medicine twenty-five years ago, the papers seem as if written in a strange tongue. The changes in terminology, the outgrowth of technical knowledge, is a clear evidence of the advancement of scientific medicine. There seems to my mind a strange obsession among medical men that the more we advance in medicine, the less the people think of us. This, as it seems to me, is the result of superficial thinking and faulty observation. There are several things that convey the idea that we have lost prestige. People carry on their affairs in a way quite different from twenty-five years ago. The way of living is quite different, it is needless to say in what respect, but we may cite the difference in the political outlook between the eastern states and the states of the middle west notwithstanding a common heritage. In the Atlantic states conservatism prevails and the medical practitioner occupies relatively the same position he did twenty-five years ago. He has advanced in knowledge in a corresponding degree with the general public, his social and economic position is the same. He goes to the city as other people do, and for the same reason. The cities and centers of population present a more intense commercial and business activity and the struggle for place and po-

sition has become more intense. The doctor must, from necessity, follow in the same line. If he should follow the footsteps of his predecessor, the family physician, he would soon be lost. Every line of business seeks the specialist and so must the doctor; both find advantage in organization, which leads to criticism, and as the organization grows stronger, the physician comes in for his share of criticism and he is led sometimes to believe that because of this fact, that he has lost the confidence of the public, but it is not so.

The family physician of the "good old days" followed along in a quiet, dignified way, with his frock coat and silk hat, doing good here and there as the opportunity arose, but he soon found himself forced into the current from necessity and gained strength thereby and increased confidence also. He abandoned the hillside village, as did others; he was criticised as were others, but he was not lost. If the good old time physician had continued in the old time way, he would have become an object of ridicule. The physician of fifty years ago is a delightful tradition of the simple life of the past, when we had horse cars and a stove in our hotel bed room. Have these changes hardened the heart of the physician and led him to turn away from the sick and the suffering? Emphatically no. He is as ready to render service and make personal sacrifices for the relief of the unfortunate as ever in the history of medicine, but in a different way. There are as many Dr. McClures in the crowded cities as in the obscure hamlets.

The states of the Atlantic coast have through a long series of years adjusted their relations, their ideas and ways of thinking and so have the doctors. Traditions are an heritage which deeply influence every race of men and are a blessing. How unfortunate it would be to wipe out the traditions of the New England farmer, who never asked his government to help him in his struggle with the hard and sterile soil of the hillside farm, small returns and small prices.

Through a long period the relation between the physician and the people of the older communities has been adjusted, conservative, but greatly changed. In our middle west the traditions and conservatism were left behind. We came to build a new world. While the old neighborhood relations were preserved, each man was left to work out his own destiny and we were not infrequently in antagonism with the conservative east. Many of us physicians came from the older communities of the east

and brought some of our professional traditions with us. As we settled in new communities we began to adjust ourselves to a new relationship, but as a rule we never abandoned our Dr. McClure ideas, and have not now, although the conditions have greatly changed. Our small villages have grown into cities, our relations have changed and we are no longer the village physician, but the village, the large village, the small city, or the large city specialist.

In our political adjustments we have ventured into strange fields, we are frequently projecting some new and untried idea of government, business, or adventure. We have sometimes parted with the past and have more or less abandoned conservatism. The same spirit has entered into the practice of medicine; strange ideas and dogmas have found lodgment in the minds of men, no more strange than in ideas of government. Does this all mean that we have lost the confidence of the public? I think not. The great mass of the intelligent public are the same most of the time and if at times wander into strange places, we return mostly, into well trodden paths. I am not in sympathy with the cry we often hear that the practice of medicine has lost its attractions and that we are drifting into obscurity. It is true that there are men in all walks of life that are dishonest, selfish and contemptible. It is also true that the medical profession has its fair share of such men. We too frequently find men in high places betraying their trust and sacrificing the sense of honor for gain, but we believe our government is safe. We too often hear our profession criticised, but we believe we are secure in the eyes of the public.

We have just returned from the seventy-third annual session of the State Medical Society, where between 500 and 600 medical men gathered to consider the scientific, social and economic interests of the profession of Iowa, and the profession in general. I did not observe a single sign of degeneracy, undue selfishness or dishonesty. The scientific papers were carefully prepared, the exhibits were of high order and the spirit of friendliness and helpfulness were apparent on every side. The group of men appointed to protect the interest of the profession, were harmonious in their endeavors to work out the several problems which confront the medical practitioners of the state. There was a generous spirit of cooperation with the men selected to coordinate the activities of the Society. Much of the work is

of necessity performed by men who work without public notice and need generous treatment and consideration. There are certain officers of the Society who are called upon to perform a large amount of work during the entire year and who are obliged to give attention to a more or less exacting private practice. Their Society duties are imperative and cannot be neglected without serious detriment to the interest of the great medical organization.

It is sometimes difficult for a body of men to meet in session once a year, for three days, to appreciate the worries and anxieties of some of its workers. It was felt that the Secretary, Dr. Tom B. Throckmorton, whose services have been of great value to the Society during the past six years, should be relieved of some part of his work by the appointment of an executive secretary, who would have charge of the Society's office in Des Moines.

We must say a few words in relation to the work of the retiring president, Dr. Oliver J. Fay, who not only performed the work of his office during the year, but who presided with distinguished dignity and firmness during the session. His address before the Society was a model production. In the selection of a President-elect it was a difficult matter to decide between the merits of the two leading candidates, Dr. S. A. Spillman of Ottumwa, and Dr. T. A. Powers of Clarinda. Both of these gentlemen have been outstanding members for many years, and we trust that Dr. Powers may be preserved to enjoy an election next year. Dr. Powers is a distinguished member of the Board of Trustees, an office not less important than that of President.

This seems an opportune time, immediately following the annual session, and in view of the meeting itself, to express some thoughts concerning the position of the medical profession in the public mind. After many years of close observation, I feel impelled to utter a protest against the often stated implication that there is something wrong with the medical profession.

I have yet another word and that is concerning the District Councilors. They have an important function, vastly greater than any Field Activities Committee. They are the State Medical Society during the interim. We believe that under the direction of the Chairman, Dr. Paul Gardner, great things can be accomplished in bringing the county medical societies into closer cooperation with the State Society. Dr. Gardner is well adapted and qualified for this delicate work.

LEGAL LIABILITY

Concerning Certain Agencies Organized by Medical Associations for the Purpose of Collecting Bills and the Protection from Non-Paying Patients

This matter being of importance to medical organizations and medical practitioners, we submitted the question to our chief attorney, C. M. Dutcher, four years ago for an opinion covering the principles involved in a plan, for securing the payment of overdue bills, as well as submitting lists of persons who failed or neglected to pay doctors' bills, and who employed one doctor after another apparently without the intention of paying. These lists are sometimes known as "blacklists."

The principles involved seem clear, but require some serious consideration. We are publishing Mr. Dutcher's opinion, with notes calling attention to certain facts which if not observed, might create liability. It will be observed that a medical organization has a legal right to elect a credit officer or agent to make up a list of names reported by members, of those who do not pay, provided, the information is correct and that the member has acted in good faith and not influenced by personal feeling. He must not assume the man will not pay, but be sure that the patient really owes him. If the patient denies the bill or claims the doctor has been guilty of malpractice, his name should not be placed on the list, because it is not clear that the information is correct or that the patient owes the doctor. If there is no dispute as to the fact of the bill, then it is legal for the doctor to report the indebtedness to the agent. If, on the contrary, he does not owe the doctor, the placing of his name on the list would create a liability against the doctor for misrepresenting the fact (the dispute is not related to the question of amount). It will be seen that if the doctor reports what is not true, he is not acting in good faith. An obligation to pay is based on the clear fact of an admitted indebtedness and not a disputed one. A report to the credit agent that a patient owes a doctor and the patient denies it or pleads malpractice, places the burden of proof on the doctor. The credit agent must also act in good faith and see to it that his list is correct as furnished by the member.

It should be borne in mind that the list is for the private use of the members and not for general distribution. The purpose of the list is to inform the doctor and to protect him from what is known as the "dead beat" and not to

"punish" a disrespectful, disagreeable, or insulting patient.

Besides the "dead beat" there is also a number of patients who always have a considerable number of overdue bills and who disregards contracts or agreements to pay; in such cases the member has a legal right to furnish the credit agent with the fact and thus secure or facilitate collection. But the report by the member must be correct.

Analagous to the commercial case cited by Mr. Dutcher, if it should happen on account of the credit list, a prospective patient could not secure medical service and suffer serious damage, a suit for damages might be instituted and sustained, based on public policy, but such a contingency would be remote, as the agreement or contract would not include all available practitioners, and there would remain a considerable range of choice.

As we understand the question, the purpose is to enter into an agreement or contract whereby the members of a medical organization appoint or elect a credit agent who would make up a list of persons who do not pay their doctor, reported to him by members, and circulated among the members for their protection against fraud and imposition and against serious loss in income.

The safe way is for a medical society to organize for protection by forming an organization separate from the County Society, appoint an agent to make a list of names of people who do not pay and circulate the list among the members of this organization only, as a confidential list. This organization might consist of a part or all of the members of the Medical Society, the membership being individual and independent. This method of business organization would do away with the allegation of conspiracy and relieve the county or city medical society of popular prejudice. Such an organization would be legal, provided its business was carried on in good faith.

"Under instructions from the Medical Defense Committee of the Iowa State Medical Society, I have been investigating the legality of the contract sent me with your letter of May 27, 1920, and beg leave to say, that your contract may be classified into two aspects:

"To first. The agreement provides that each member shall submit a credit officer elected by the members a list of his unpaid overdue accounts, giving his name, address of debtor, date and amount of account due.

"This provision is perfectly legal, providing its object is to furnish information to the members with

respect to the credit of prospective patients. The principle involved corresponds to the work of the mercantile agencies in collecting information as to the solvency, credit and standing of another. The limitation imposed by the law is that the information is communicated confidentially for the benefit of the members and in good faith.

"The publication of the list among the members of the society by the credit officer is a publication by the member furnishing the information as to a particular account because he furnishes the information to the credit officer in order that he may give publicity to it among the other members of the organization. So long as the credit officer acts in good faith he is not liable, but the doctor who furnishes the information to the credit officer is bound to furnish accurate information, that is, if the doctor reported a patient as delinquent when, as a matter of fact, the patient did not owe him, the doctor would be liable in a damage suit for all damages which the debtor suffered, even though the doctor furnishing the information acted in good faith. For example, suppose Dr. A. notified the credit officer that Mr. B. owed him \$10 which was past due, and suppose the credit officer circulated this among the other members of the organization, and suppose Mr. B. claimed that he did not owe Dr. A. anything by reason, for instance, of the malpractice of Dr. A. and he brought suit for libel. If he could establish the fact that he did not owe him anything by reason of malpractice or by reason of payment, or for any other reason, he would be entitled to his damages against Dr. A. This being true, of course, it is very important that your members should be absolutely sure of an indebtedness past due before reporting the name of the delinquent to the credit officer. Within the limitations above set out that part of the contract is perfectly legal.

"Second. The other features of the contract is the agreement upon the part of the members to refuse to render service except on a cash basis or to report the name of the debtor to the overseer of the poor for care by the physicians doing the county work and providing a penalty, to-wit: the surrender to his right to the list and the benefits of the organization for a failure to comply with the agreement.

"This part of the contract has given me some trouble, and, of course, your profession is a private one and you have a right to refuse employment arbitrarily, and it would seem on principle that this part of the contract is legal, but I have found one case decided by the supreme court of Nebraska in *Masters vs. Lee*, 58 Northwestern Reporter, page 222, which seems to hold to the contrary. In that case there was an organization known as Merchants Retail Commercial Agency of Chicago, and the Retail Merchants Association of Iowa, Nebraska and Kansas consolidated. The organization printed an abstract of unsettled accounts. Each member of the organization advised the credit officer of the name, residence and account owing by each delinquent customer and quarterly these names were published in

pamphlet form and circulated among the members of the organization. One of the members reported the plaintiff as a debtor to the amount of \$13.78 and the name was circulated through the pamphlet. The plaintiff brought suit for damages for libel, claiming that he did not owe the account. The plaintiff lost on the charge of libel but also had a claim for damages to compensate the plaintiff for refusal of dealers to extend him credit on account of the publication, and this question seemed to be considered by the supreme court entirely without respect to whether plaintiff owed the debt or not, and the supreme court of Nebraska in that case uses this language:

"This gave to each member the right to report the name of any person against whom such member, justly or unjustly, claimed to have a demand. The party against whom the claim was made had no right to be heard. His name must be published, or he must pay whatever was claimed against him. If his name appeared in the "blacklist"—which is but a proper designation for the so-called quarterly abstract—his credit was destroyed with every member of the association. The evidence in this case showed that the city of Fremont, where the plaintiff and defendant both lived, there were from twenty to thirty-two members of the association in question. From the publication of the plaintiff's name in the blacklist, it resulted that at from twenty to thirty-two different places of business in the city of which he was a resident the proprietors were bound under a penalty, to extend no credit to him no matter what explanation he might give, what defense he might have, or what the real facts of the case might be. As to this there was allowed no opportunity for investigation or adjudication. The law, from considerations of public policy, allows each defendant, the head of a family, certain exemptions. These exemptions are not for the purpose of enabling him to defy his creditors, but are rather deemed proper for the protection of his family. The association in question ruthlessly ignored both policy and the letter of the law. By it there was allowed to the defendant neither the opportunity to allege and prove a defense, nor the right of an impartial trial by jury; and the exemptions as to which the holder of the claim had not right, either equitable or legal, were absolutely denied the so-called "defendant." The holder of the claim, by the payment of \$10 in advance, and thereafter \$4 annually, became a privileged member of the self-constituted society, which was at once the plaintiff, the judge, the jury, and the executive officer, before which the alleged defendant had not even the poor privilege of being heard. His only recourse was to pay the claim, whatever its nature, and whatever might be his just defense. It seems to us that, when an individual becomes a member of such an association as this, he should be held as a co-conspirator, and not merely as the author of the libel. Counsel for defendant in error insist that the plaintiff in this case has no right to complain, because every man should pay his just debts. Probably this is true, and yet, in a case like that at bar, who is to determine what just debts are due? Manifestly, there is no

determination of this fact, except by the holder of the claim, himself. If he shall set in motion such a contrivance as this which we have under consideration, and a damage results to the party whose name he has handed in to be dealt with, he should respond in damages, irrespective of the rules of law governing more libelous publications."

"Of course, in the Masters case there was the element of an effort to collect the bill which is not present in your contract. If the purpose of your contract was to enable you to collect these delinquent accounts by bringing to bear upon the debtor the fact that no physician who was a member of the medical society in Waterloo would treat him except for cash, I think it would make considerable difference in your contract. While the question is not entirely free from doubt, I am of the opinion that your judgment would be held legal in Iowa, but I wish to submit the following caution:

"First: The doctor reporting a delinquent should be absolutely sure of the indebtedness; otherwise, he would be liable for damages for libel.

"Second: No effort should be made on the part of any member by himself, attorney or otherwise, or by the credit officer to use this contract as a weapon in the collection of accounts.

"Third: The information supplied by the retail creditor to the members should be treated as absolutely confidential and care should be taken that no persons except members and the credit man be put in possession of the information. I do not think that even the overseer of the poor should be told because I do not see how he can be legitimately interested in the proposition. The mere fact that a resident of Waterloo refuses to pay his doctor bill would not justify the overseer of the poor furnishing him with medicine and professional medical services at the expense of the public. The Society, in my judgment, can only use this contract for one purpose, and that is to advise its members of those persons who by reason of indifference or inability fail to pay their doctor bills, in order that the member will know whether to extend credit or not, and so long as the organization is used for that purpose in good faith, it is undoubtedly proper and lawful.

"So far as the overseer of the poor is concerned, his duties are determined by law. Section 2230 of the Supplement to the Code provides for this relief, and the overseer of the poor in determining whether he ought to incur public expense in furnishing medical attendance upon that section, should be governed entirely by the merits of the case. In other words, a patient may owe a doctor bill for more than three months and yet not be entitled to medical treatment at public expense. If the overseer of the poor should be brought into the situation and be influenced by the credit ratings, there would be grave danger of putting your organization in the position of attempting to humiliate residents for failure to pay their bill by reporting them to the public authorities.

"The proper way to do when a debtor is reported is to refuse him medical service except for cash. This you have a right to do, and I think you have a

right to agree to do that but I doubt if you have the right to go further and agree to report him to the overseer of the poor, which is practically calling him a pauper, and if you should report one as a pauper merely because he failed to pay a particular bill you would undoubtedly be liable for damages.

"The agreement to report a delinquent to the overseer of the poor suggests very strongly to the ordinary mind that as an organization you are attempting to inflict some punishment upon a man for failing to pay his bill, and the only punishment you have a right to inflict upon him is to have recourse to the ordinary judicial tribunals for the purpose of making the collection and to withhold your service from him. I think you will agree with me that if you went out on the streets and said of a patient that he was a pauper or that he was a fit subject for public charity merely because he owed you a bill which is past due that you would be subjecting yourself to liability, and yet that is exactly what you are doing when you report this matter to the overseer of the poor, because the information is not apt for aiding him in determining whether the person is a fit subject for charity or not.

"I have made this opinion rather long because the question is rather important and I wish to make it as plain as possible to you. I shall be glad to answer any further questions or to receive any further suggestions."

Congress has been asked to pass legislation that will wipe out the inequalities now existing in the medical personnel of the U. S. Veterans Bureau and to provide such pay and living incentives as will attract the very highest grade of medical skill into the Bureau service, according to an announcement made by General Frank T. Hines, director of the Veterans Bureau.

Director Hines called attention to the fact that the Bureau's doctors were now of three classes, those with civil service status, those holding commissions in the Public Health Service, and the special experts appointed by the director.

Under one bill now before Congress, prepared by the Bureau at the request of the House Committee on World War Veterans Legislation, there will be established a permanent medical corps in the Bureau with commissioned personnel. Another proposal under consideration will create a reserve corps under the Public Health Service, of which the medical personnel of the Veterans Bureau will be a part. A third suggestion is that of placing all of the Veterans Bureau doctors on a Civil Service status. The plan to create a medical corps is most favored by the Bureau officials.

"The giving of medical attention and care to our disabled soldiers will continue for a long time," said General Hines. "It is my desire to build up a permanent high grade medical personnel and to that end I am asking Congress to pass the necessary legislation."

Director Hines announced that he has invited more

than thirty of America's leading medical men to act as expert consultants to the Bureau. "These men," said General Hines, "were selected after correspondence with the leading national medical associations."

The following consultants in tuberculosis were selected: Dr. Edward Robinson Baldwin, Saranac Lake, New York; Dr. Wm. Leroy Dunn, Asheville, North Carolina; Dr. Kennon Dunham, Cincinnati, Ohio; Dr. Roy Adams, Washington, D. C.; Dr. James A. Miller, New York City, and Dr. Francis M. Pottenger, Monrovia, California.

As consultants in neuropsychiatry, General Hines invited Dr. Wm. A. White, superintendent, St. Elizabeth's Hospital, Washington, D. C.; Dr. Albert M. Barrett, superintendent, State Psychopathic Hospital, Ann Arbor, Michigan; Dr. Wm. F. Lorenz, Wisconsin Psychiatric Institution, Madison, Wisconsin; Dr. Macafie Campbell, medical director, Boston Psychopathic Hospital, Boston, Massachusetts; Dr. Glenn E. Myers, Los Angeles, California; Dr. Sidney Isaac Schwab, St. Louis, Missouri; Dr. Thomas Salmon, New York City, and Dr. Daniel Joseph McCarthy, Philadelphia, Pennsylvania.

In general medicine and surgery, the director selected the following: Dr. Frank Billings, Chicago, Illinois; Dr. George Morris Piersoll, Philadelphia, Pennsylvania; Dr. W. J. and Charles H. Mayo, Mayo Clinic, Rochester, Minnesota; Dr. George W. Crile, Cleveland, Ohio; Dr. Lewellys Barker, Johns Hopkins University, Baltimore, Maryland; Dr. Simon Flexner, Rockefeller Institute, New York City; Dr. Ray Lyman Wilbur, president, Stanford University, Palo Alto, California, and Dr. Joel Ernest Goldthwaite, Boston, Massachusetts.

General Hines selected the following consultants in Hospital Planning and Construction: Dr. George H. Kirby, Psychiatric Institute, Ward's Island, New York; Dr. S. S. Goldwater, superintendent, Mt. Sinai Hospital, New York City; Dr. M. T. MacEachern, Chicago, Illinois; D. Winford H. Smith, Johns Hopkins University, Baltimore, Maryland; Dr. L. H. Burlingham, St. Louis, Missouri; Dr. W. C. Rappleye, New Haven, Hospital, New Haven, Connecticut.

Mr. Michael M. Davis, New York City; Dr. Douglas A. Thom, Boston, Massachusetts, and Dr. Livingston Farrand, president, Cornell University, Ithaca, New York; have been selected as consultants in dispensaries and out-patient clinics.

General Hines stated that he believed it to be of great importance to the Bureau to obtain the services of these nationally known medical men and that he felt sure they would accept this opportunity of assisting in the recovery of America's disabled veterans.

With appropriate ceremony, U. S. Veterans Hospital No. 95, Northampton, Massachusetts, will be officially opened on May 12, according to General Frank T. Hines, director of the U. S. Veterans Bureau.

Dr. A. H. Pierce, medical officer in charge of U. S. Veterans' Hospital No. 44, West Roxbury, Massachusetts, has been selected as the medical officer in

charge of the new institution. He will be assisted by a personnel of approximately 250.

The hospital was constructed at a cost of more than \$2,000,000. The buildings are two and three stories high and are of fire-proof brick, tile and reinforced concrete construction. Every modern appliance adapted to the treatment of neuropsychiatric diseases have been installed in the institution.

National hospital day, the one hundred and fourth anniversary of the birth of Florence Nightingale, has been selected as the most fitting and appropriate occasion for the official opening of the new Veterans' Hospital, which will have facilities to care for four hundred and sixty-two patients. Director Frank T. Hines is expected to be present at the ceremony.

"MENSÆ MEDICAE"

(Translation from the "Berliner Tageblatt" for January 8, 1924)

The following appeal has been issued by a committee composed of the following, and other well-known members of the medical profession: Professors Bier, Bumm, Czerny, His, and Goldschneider:

"The appalling need, which all brain workers in Germany are experiencing, is being felt in an overwhelming measure by doctors. Large numbers of people are no longer calling in medical aid on account of their inability to pay the fees. This dwindling number of their patients has brought thousands of doctors to such a dire state of need that they have been obliged to seek other ways of earning a livelihood, and the majority of them are in a pitiable condition. Some have been driven to commit suicide. This need might be mitigated, if in the already-existing, or planned community kitchens in Berlin, meals for doctors—"mensæ medicæ" could be established. For these meals they should pay a small sum of money, or in certain exceptionally unfortunate cases, they might be given free. Dr. Eugenie Schwarzwald has placed at our disposal the kitchens which were created and are conducted by the Austrian "Friendly Help." What is now wanted is money for carrying on the work in the kitchens and for buying the food. We appeal to everyone who has cause for gratitude to the medical profession to send contributions to the credit of the "Friendly Help" (Dept. Mensæ Medicæ) to the Bank of Mendelseohn & Co., Berlin, W 8, Jagerstrasse 51; and by this means assist in maintaining the public health."

Appointment of Dr. S. Josephine Baker, of New York, as consulting director in maternity and infancy and child hygiene of the Children's Bureau of the U. S. Department of Labor is announced by Grace Abbott, chief of the Bureau.

Dr. Baker is known as one of the foremost authorities in the nation in the field of child health. Her resignation last spring from the position of director of the Bureau of Child Hygiene of the New York

City Department of Health, came after twenty years of pioneer work for the welfare of the mothers and babies of New York, during which the infant mortality rate in New York was reduced from 144 per thousand live births to 75, little more than half the former rate.

Dr. Baker organized the Child Hygiene Division of the New York City Health Department in 1908. At that time it was the first bureau of its kind to be established in the United States, and it also antedated the Children's Bureau. Since then nearly every state has established such a bureau or division.

Dr. Baker's work, through the Children's Bureau, for the mothers and babies of the nation, will lie chiefly in advice in the determination of policies and the planning of work, and in the writing of reports.

In Iowa we have eye, ear, nose and throat doctor and the owner of a defective speech school.

SOCIETY PROCEEDINGS

Blackhawk County Medical Society

Blackhawk County Medical Society held its annual banquet and election of officers at Greater Waterloo Association Wednesday evening, April 2. The following officers were elected: Dr. J. R. Thompson, president; Dr. E. C. McMillan, vice-president; Dr. A. J. Joint, secretary; Dr. F. C. Sage, treasurer, and Dr. C. W. Ellis, censor. Dr. W. L. Hearst was selected as a delegate to the state convention to be held at Des Moines in May. Dr. T. U. McManus is the alternate.

Dr. D. S. Fairchild, Clinton, addressed the meeting on the subject "The Work of the Medical Defense Committee."

Butler County Medical Society

The Butler County Medical Society held one of the most successful meetings in its history at the Masonic hall in Allison. The meeting was called to order when routine business was disposed of and the following scientific program was enjoyed:

Tuberculous Peritonitis and its Treatment—Dr. Kearn, Waverly.

Appendicitis—Dr. Rohlf, Waverly.

Final Results from Treatment of Fracture of the Arm—Dr. Dakin, Mason City.

Heredity—Dr. C. C. Smith, Clarksville.

Report on case of Measles—Dr. B. Ensley, Shell Rock.

The society went on record as endorsing the movement for continuation of the county health nursing service in the county. Dr. Wallace of the Rockefeller Foundation was present and outlined plans for a county unit which was heartily approved. Dr. Reeve was appointed to call a meeting in Allison of all those interested in public health work in the county. This meeting will be called some time in August when Dr. Wallace and Dr. Sampson, district councilor, can be present. They have a real message to deliver and all should come and be informed.

The following officers were elected for the ensuing year: Dr. M. B. Call, Greene, president; Dr. C. F. Roder, Aredale, vice-president; Dr. Mayne, Greene, secretary and treasurer. Dr. Call was elected as delegate to the State Medical Convention, with Dr. Mayne alternate.

Cass County Medical Society

The Cass County Medical Society met in session at the Masonic parlor, Atlantic, Iowa, Wednesday, April 23, at 1:30 p. m. There were nineteen doctors present, as follows: Drs. C. L. Campbell, F. J. Becker, R. A. Becker, Greenleaf, Graham, Johnson, Barnett, Clark, Cullison, Lynch, Atlantic; Dr. A. J. Zook, Adair; Drs. H. E. Campbell and Adair, Anita; Dr. Miller, Massena; Drs. Weaver and Anderson, Cumberland; Dr. H. D. Hully, Griswold; Dr. Gibson, Lewis, and Dr. Stults, Neota.

After transacting the usual business, the following program was had:

Acute Osteomyelitis—Dr. R. M. Cullison, Atlantic.

Report of Case: Carbuncle—Dr. H. E. Campbell, Anita.

The society by resolution, sponsored the Shepherd-Towner Baby Clinic. Also voted to have a general meeting in October at Anita.

C. G. Clark, President,

M. F. Stults, Secretary.

Clay County Medical Society

The Clay County Medical Society held its annual meeting in Spencer March 31.

Officers elected were: Dr. C. C. Winter, president, Greenville; Dr. T. H. Johnson, vice-president, Spencer; Dr. J. M. Sokol, secretary.

Dubuque County Medical Society

The regular monthly meeting of the Dubuque County Medical Society will be held Tuesday night at the Chamber of Commerce at 8:00 o'clock.

The following program will be carried out:

1. Symptoms, Diagnosis and Treatment of New Growths of the Intestines with Case Report—Dr. Moes.

2. Differential Diagnosis and Treatment of Intestinal Obstruction—Strangulation, Obturator and Paralytic Ileus—Dr. St. Germain.

3. Symptoms, Diagnosis and Treatment of T. B. Peritonitis.

4. Case Report with Autopsy: Acute Meningitis—Dr. Cassmeyer (by invitation)—Dubuque Herald.

Johnson County Medical Society

The regular meeting of the Johnson County Medical Society was held at the Red Ball Inn, Iowa City, on the evening of May 14, with an unusually large attendance. There was a dinner at six o'clock followed by a smoker and the usual business meeting and at eight o'clock Dr. Julius Grinker, professor of nervous and mental diseases at Northwestern University, discussed the diagnosis and treatment of

idiopathic epilepsy. Many unusual features of the disease were pictured as well as the more common aspects. The speaker narrated his own experiences with both the bromide form of treatment and the more recent use of luminal which he considered as nearly a specific therapeutic agent. The detail of the management and the importance of the continuation of such management over a prolonged period were well brought out in the narration of his own experience in the management of this form of epilepsy.

Linn County Medical Society

The Linn County Medical Society met at the Montrose Hotel, Cedar Rapids, Iowa, Thursday, April 24, 1924, at eight o'clock. There were about 100 present. Visitors came from surrounding counties. The paper of the evening was read by Dr. Wm. F. Braasch, head of department of urology, Mayo Clinic, Rochester, Minnesota, on The Prostatic Gland from the Practitioners Standpoint, with lantern slide demonstrations. Dr. Braasch brought out the importance of diagnosis by the general practitioner, differential as to cases appropriate for operation, the preparatory step before the operation and post-operative. After the scientific program the society was host to a buffet luncheon in an adjoining room.

Scott County Medical Society

Dr. Philip H. Kreuscher of Chicago was the principal speaker at an exceptionally interesting meeting of the Scott County Medical Society held last evening at the Davenport Chamber of Commerce. About sixty physicians, including eighteen or twenty guests from the Rock Island Medical Society, were present.

Dr. Kreuscher, who is surgeon-in-chief at Mercy Hospital, Chicago, and who was associated with the late Dr. J. B. Murphy of that city, discussed in an informative and interesting manner the two subjects, "Fractures at and Near Joints" and "Syringe Method of Blood Transfusion." General discussions of these subjects followed, led by Drs. Ray Kulp, P. A. Bendixen, F. H. Lamb and Walter Matthey.

An excellent paper on "Periodical Health Examinations" was presented by Dr. J. I. Marker. Dr. George Braunlich and Dr. William Binford led the general discussion of this topic.

At the brief business session, Dr. Lawrence Block of Davenport was elected to membership in the society.—Davenport Times.

Association of American Medical Colleges

At the annual meeting of the Association of American Medical Colleges, the following officers were elected: Dr. Ray Lyman Wilbur, president; Dr. Hugh A. Cabot, vice-president; Dr. Fred C. Zapffe, secretary-treasurer.

Executive committee: Dr. David L. Edsal, Dr. G. Canby Robinson, Dr. Walter L. Niles.

Upper Des Moines Medical Society

The Upper Des Moines Medical Society, including Clay, Emmet, Dickinson and Palo Alto counties, met at Estherville March 27. The occasion was the opening of the Coleman Hospital and Clinic.

Odebolt Clinic has been formed by Drs. Stillman Gorman and McAllister.

MEDICAL NEWS NOTES

The Metropolitan Life Statistical Bulletin notes a decided reduction in mortality statistics of the industrial policyholders from diabetes since the introduction of insulin in treatment of this disease.

Members of the Marshall County Medical Society, at their monthly meeting at the Y. M. C. A. made detailed plans for performing under the contract with the county to doctor the poor, fixed the Wednesday afternoon closing dates for the summer, arranged for the annual summer clinic.

Under its contract with the county board of supervisors, the members of the medical society will answer calls in city and country, but under certain restrictions.

All calls for doctoring poor in the city will only be answered when coming through the Social Service League secretary. Calls that come direct from those needing medical care to doctors will not be answered. In other words the Social Service League is to act as a clearing house and have supervision over calls for doctors from the poor. This detail is regarded as necessary for various reasons and is provided for in the contract.

Doctors will, however, answer calls for caring for poor in the country, other than at the county farm, when they are O. K'd or come direct from the board of supervisors or township trustees.

Following a custom established a few years ago, the Marshall County Medical Society will sponsor a big clinic to be held in this city Thursday, June 19. General plans for it, which were announced last night, will include the clinic to be held in the city and dinner at Elmwood Country Club. Physicians from all over central Iowa will be invited to attend the clinic and they and their wives and the wives of society members will be guests at the dinner. The details of the program or the specialists who will conduct the clinic, have not yet been decided on.

By agreement, doctors and specialists will close their offices after 2:00 o'clock for the rest of the day each Wednesday afternoon from May 1 until October 31. Urgent calls will, of course, be answered.

Dr. Jennings Crawford of Cedar Rapids, read a paper on Abdominal Infections.

Drake University will have a graduate school of medicine as a part of its contribution to higher learning within the year, it became definitely known today.

Already steps are being taken toward the establishment of such a department by men of the medical fraternity and members of the Drake faculty who are especially interested in the project.

Members of the medical profession in Des Moines have long felt the need of such a school, where graduates of medical colleges might continue their studies in branches of the science in which they were most interested, according to one of those interested in the movement.

There has never been such a school in the state of Iowa.

The only graduate school of medicine in the Middle West, outside of Chicago is the one conducted at Rochester, Minnesota, as a part of the University of Minnesota.

"Des Moines is conceded to be especially fortunate in the number of splendidly equipped physicians and surgeons practicing here, including specialists in all branches, men whose high character and scientific achievements would make them outstanding members of their profession in any community," said a representative of the university.

"Moreover, Des Moines possesses excellent clinical facilities in the number of first class hospitals where practice and research can be carried on."

Since Drake University is able and willing to take care of the academic and administrative requirements of such a project medical men and the university authorities say that the plans now under way may be realized within the year.

The beginning of this graduate school will be necessarily small, but there is no doubt that it will grow rapidly and, with the advantages of location, equipment, and unusual facilities, become one of the strongest departments of its kind in the country.

It is definitely understood that no courses will be offered in under-graduate medicine, but solely for graduate students who have already taken their degrees from medical colleges—Des Moines Tribune.

Thirty Years Ago

(From The Capital of April 3, 1894)

The twelfth annual commencement exercises of the Iowa College of Physicians and Surgeons, medical department of Drake University will be held this evening. The faculty of the college includes Drs. Lewis Schooler, O. D. Benson, Frank S. Dunshee, W. Van Werden, D. S. Fairchild, D. W. Finlayson, D. W. Smouse, J. W. Cokenower, Clifton Scott and C. E. Stoner.

HOSPITAL NOTES

The contract for the new Odd Fellow Hospital and Infirmary at Mason City, Iowa, costing \$39,720, was awarded to M. M. Moen and Company, it was announced by A. C. Cherry, grandmaster of the Independent Order of Odd Fellows.

St. Joseph's Mercy Hospital has been granted a permit to erect its new \$108,000 addition. Work on the addition has been started and will be completed

within the next few months.—Ft. Dodge Messenger.

Citizens of Ottumwa have completed a successful drive for \$100,000, to be used in constructing a \$300,000 hospital. The Sisters of the Humility of Mary are supplying \$200,000 of the building fund.—Des Moines Register.

NATIONAL BOARD OF MEDICAL EXAMINERS OF THE UNITED STATES

Members

Horace D. Arnold, M.D., Boston, Massachusetts, formerly dean of the Harvard Graduate School of Medicine.

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J. M. T. Finney, M.D., Baltimore, Maryland, clinical professor of surgery, Johns Hopkins University Medical Department.

Austin Flint, M.D., New York, New York, professor of obstetrics and gynecology, University and Bellevue Hospital Medical College.

Walter E. Garrey, M.D., New Orleans, Louisiana, professor of physiology, Tulane University School of Medicine.

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Eugene L. Opie, M.D., Philadelphia, Pennsylvania, professor of experimental pathology, University of Pennsylvania School of Medicine.

O. H. Perry Pepper, M.D., Philadelphia, Pennsylvania, assistant professor of medicine, University of Pennsylvania School of Medicine.

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David A. Strickler, M.D., Denver, Colorado, president, Federation of State Medical Boards of the United States.

J. Whitridge Williams, M.D., Baltimore, Maryland, dean, Johns Hopkins University Medical Department.

Louis B. Wilson, M.D., Rochester, Minnesota, di-

rector, Mayo Foundation.

Officers—Surgeon-general, M. W. Ireland, president; J. S. Rodman, M.D., secretary-treasurer; Everett S. Elwood, managing director.

APPOINTMENT OF INTERNES

All internes for Iowa University Hospital, in its various departments, and for other cities, to be selected from the senior class of 1924, S. U. I. college of medicine, save those in the department of Dr. Albert H. Byfield, pediatrics, were announced by Dr. B. W. Caldwell, superintendent of the University Hospital as follows:

Sterling Bockoven, Cresco, to Salt Lake City.

Harold Bone, Albia, to Iowa Methodist, Des Moines.

Donald L. Braddy, Des Moines, to Iowa Lutheran, Des Moines.

Donald Bussey, Iowa City, to Ogden, Utah.

Charles Cantrell, Mason City, to LaCrosse, Wisconsin.

Ray Lester Corbin, Norway, to Iowa Lutheran, Des Moines.

Oral Cunningham, Indianola, to Iowa Methodist, Des Moines.

E. A. McGrew, Iowa City, to St. Mary's, Kansas City, Missouri.

Donald H. Kast, Iowa City, to Iowa Methodist, Des Moines.

R. O. Sala, Rock Island, Illinois, to Mercy Hospital, Davenport.

C. Scott, Iowa City, to City Hospital, St. Louis.

Cecil R. Smith, Onslow, to Youngstown (Ohio) Hospital.

Walter T. Judge, Boone, and H. S. Foskett, Los Angeles, California, to St. Luke's Hospital, Spokane, Washington.

J. P. McConkie, Cedar Rapids, to Seaside Hospital, Long Beach, California.

George A. Sywassink, Muscatine, to St. Francis Hospital, LaCrosse, Wisconsin.

Lazaar Throckmorton, Chariton, S. Foskett, Los Angeles, California, to Iowa Lutheran Hospital, Des Moines.

O. D. Cunningham, Indianola, to Iowa Methodist Hospital, Des Moines.

E. G. Longley, Dows, Iowa, Deaconess Hospital, Spokane, Washington.

G. Gunderson, Iowa City, to Butterworth Hospital, Grand Rapids, Michigan.

W. H. Drummond, Spirit Lake, to City and County Hospital, Salt Lake City, Utah.

C. F. Jones, Sioux City, to County Hospital, Salt Lake City, Utah.

P. E. Newport, Adair, to Iowa Methodist, Des Moines.

M. C. Melrose, Iowa City, to Holy Cross Hospital, Salt Lake City, Utah.

D. C. Ensign, Iowa City, Henry Ford Hospital, Detroit.

Robert J. Dostal, Cedar Rapids, Children's Hospital, Los Angeles.

At Iowa University: Harry P. Moen, Inwood; Verne L. Ranley, Hamburg; John H. Rieniets, Arlington; Joseph H. Rock, Williamsburg; Edwin J. Goen, Manchester; Arthur S. Fourt, Fairfield; Leonard P. Ristine, Iowa City; Claude H. Dulaney, Collins; John T. Howard, Iowa City; Robert A. Culbertson, Chariton; Erwin C. Sage, Waterloo; Richard Shope, Des Moines; Lloyd O. Peckenschneider, Davenport; F. B. Schutzbank, Centerville; B. I. Burn, Iowa City; H. V. Weaver, Iowa City; H. H. Lamb, Davenport; Oscar J. Mabee, New Providence; Lawrence A. Taylor, Ottumwa.

PERSONAL MENTION

Dr. H. R. Reynolds, formerly of Clinton, who enlisted at the beginning of the Great War after the United States entered the struggle, and served three years with troops, was transferred to the Public Health Service, and after the reorganization was transferred to the United States Veterans' Hospital, No. 44, West Roxbury, Massachusetts, under the direction of Dr. A. H. Pierce, has been transferred to the United States Veterans' Hospital No. 95, Northampton, Massachusetts, as executive officer. Dr. A. H. Pierce, formerly chief of the West Roxbury Hospital, has been made medical officer in charge of the new institution, which cost more than \$2,000,000.

The latest information concerning Dr. Thomas Duhigg is from Hongkong, China.—Des Moines Tribune, April 23.

Dr. Gordon F. Harkness, who recently underwent an operation for acute appendicitis and who has been confined to the hospital and his home for the past several weeks, has fully recovered and is back at his office at 508 Putnam building.

Dr. A. L. Brooks is quite ill at his home in Audubon and but little hope is entertained for his recovery. Dr. Brooks has many friends who will be sorry to learn of his illness.

To have been a practicing physician continuously for fifty-six years, to be a practicing physician now, with full zest and joy in the work, and still looking after his patients with the same promptness and care as when a young man—that's the reward of Dr. George P. Carpenter, who celebrates his fifty-sixth anniversary as a doctor of medicine in Cedar Rapids. More than this, Dr. Carpenter laughingly says he has never taken a physic. "Throw medicine to the dogs, I'll have none of it," might almost be his slogan. "There are other ways," he says. He has never taken a physic, he never has taken a drink of intoxicating liquor. Yet he admits that this is not sprouting any angelic wings—he never did. "Here's all the medicine I have ever need," he said to a Cedar Rapids Republican reporter, pointing to a fragrant Havana between his teeth. He smokes most of the time he is awake, just as Mark Twain used to. At the age of twenty-two Dr. Carpenter was graduated from the Ohio Medical College at Cincinnati. Thence

he came to Cedar Rapids, then a town of 3,000, mostly lying between First street and Sixth street and between D avenue and Fifth avenue. Dr. Carpenter was the first Mason raised in Mt. Hermon Lodge, No. 263 A. F. & A. M., during the year it was under dispensation. At that time the lodge was in the upper story of the brick building at the southeast corner of the intersection of First street and A avenue. It was devoted to Masonry for some years, but after that it was used for less noble and glorious purposes.—Cedar Rapids Republican.

Robert Halsey Patchin, former well known Des Moines man, was wedded in New York City, according to cards received. The bride, Minga Pope Duryea, is a sister of Mr. and Mrs. John Russel Pope of New York, who announce the marriage, which took place April 5 at No. 4 Eighty-first street. Mr. Patchin is the son of the late Dr. C. H. Patchin, pioneer Des Moines physician, and Mrs. C. Halsey Patchin, charter member of the Women's Club, and has been active in journalism since leaving Des Moines a number of years ago. He is now general manager of the Grace steamship line operating between the United States and South America. His bride is connected with the Pope-Duryea automobile concern.—Des Moines Tribune.

Dr. Paul Hermsen, a graduate of Creighton University, has formed a professional partnership under the name of Doctors Lowery and Hermsen, Neola, Iowa.

THE MEDICAL JOURNAL AND RECORD

It will be remembered that not long ago The New York Medical Journal merged with The Medical Record and was known as the New York Medical Journal and Medical Record.

Beginning with 1924, the Journal, to expand its sphere of influence and usefulness, takes on a new name, Medical Journal and Record, expressive of the national and international character of the publication. It may now be regarded as one of the great medical journals of the world.

LEAGUE OF NATIONS APPOINTS AMERICANS

Dr. Hugh S. Cumming, surgeon-general of the U. S. Public Health Service, Washington, D. C., has been elected one of the vice-presidents of the permanent health organization of the League of Nations which recently met at Geneva, Switzerland. Dr. Otto R. Eichel, Albany, New York, director of vital statistics for the state department of health, has been appointed to direct the epidemiologic intelligence and statistics section of the League, and Dr. Alice Hamilton, professor of industrial medicine, Harvard Medical School, Boston, has been appointed a member of the permanent health committee.—The Chicago Medical Record.

OBITUARY

Dr. W. A. Miller of Elkader, died at his home April 2, 1924. He suffered from a hemiplegia November 27, 1921, and again October 25, 1923.

Dr. William A. Miller was born on the home farm in Mallory township, August 2, 1870. He attended Lenox College at Hopkinton and later graduated from the State Teachers College at Cedar Falls. He entered the medical school of the Iowa State University. After graduating in medicine, entered the College of Physicians and Surgeons at Milwaukee as a special student in diseases of the eye, ear, nose and throat, graduating in 1897. The same year he located in Elkader.

Finding his health failing, he associated himself with Dr. P. R. V. Hommel, and in the summer of 1923 disposed of his interests to Dr. E. C. Meggers.

On August 17, 1898, he married Miss Carrie M. Diers, who, with one daughter, Gretna Jane Miller, two sisters and four brothers survive him; one brother is Dr. Grover C. Miller of Guttenberg.

Dr. Miller was much devoted to the Masonic order. A member of Elkader Lodge No. 72, A. F. & A. M., De Molay Consistory of Clinton and El Kahir Shrine, Cedar Rapids.

Dr. Miller was a member of his county medical society, Iowa State Medical Society and the American Medical Association. He was successful in medical practice and occupied a high place in the community.

Dr. M. M. Scheuer, for many years a practicing physician at Valley Junction died at Mercy Hospital, Des Moines, after a year's illness. Chronic nephritis is given as the cause of his death.

As a tribute to the life and character of Dr. Maurice M. Scheuer, Jewish physician, after twenty-eight years' practice in Valley Junction, classes and creeds joined in reverence to him as "a man" in funeral services held at the Valley Junction Church of Christ.

Odd Fellows and Masons attended the funeral in uniform. Masonic Lodge Bmemeth No. 577 had charge of the services. Burial was in Masonic Glendale cemetery, Des Moines.

Dr. Scheuer was the community doctor of Valley Junction and one of the staunch backers of the town. He was a member of the Valley Junction Commercial Club, Modern Woodmen of America and A. O. U. W. He had his office in the Raaz building in Valley Junction.

He is survived by his widow and a daughter, Nellie. His residence was at 5731 Grand avenue, Des Moines.

Dr. Byron Lewis died April 4 at 6:00 o'clock a. m. at his home in Floyd, where he has been practicing medicine for the past ten years and was a member of the Floyd County Medical Association. Dr. Lewis had been in failing health for the past six months, retiring from practice last December. He was seventy-one years, two months and one day of age at the time of his death, having been born in

Pennsylvania February 3, 1853. He leaves a wife and one son who is a resident of Estherville, Iowa, to mourn his death.

BOOK REVIEWS

OPERATIVE SURGERY

Covering the Operative Technic Involved in the Operations of General and Special Surgery. By Warren Stone Bickham, M.D., F. A. C. S.; Former Surgeon in Charge of General Surgery, Manhattan State Hospital, New York; Former Visiting Surgeon to Charity and to Touro Hospitals, New Orleans. In Six Volumes, Totalling Approximately 5400 Pages, with 6378 Illustrations, Mostly Original, and Separate Desk Index Volume. Now Ready. Vol. I, Containing 850 Pages, with 921 Illustrations and Vol. II, Containing 877 Pages and 1008 Illustrations. Sold by Subscription Only. Index Volume Free. W. B. Saunders Company, 1924. Cloth, \$10.00 Per Volume.

Our first effort in this review was to read the preface, for when a single writer prepares a work of six volumes, we inquire rather anxiously what reason he has to offer. The author does not say he discovered a "long felt want." We have to infer that Dr. Bickham had the material and proposed to publish it. The Doctor has in mind how a work on surgery may be constructed; the scope of the work; the relation of operative technic to operations of general surgery and to general surgery. The plan of this work apparently grew out of the author's experience in preparing his one volume work, which has expanded to a very extensive and exhaustive work on operative surgery.

The plan of Part One of the first volume is to arrange four chapters, considering Preparation for Operations, Anesthesia and Analgesia; General Operative Technic; After Care of Operated Patients. Three hundred and fifty-one pages are devoted to these considerations. Numerous illustrations are employed. Each subject is presented in careful detail as to method employed. There are no confusing omissions in the text and one is not left in doubt.

Having thus thoroughly prepared for special work, we enter on General Operative Surgery in part two, 465 pages. Skin Grafting; Reformative, Reconstructive or Plastic Surgery; Dermoplastics; Transplantation of Tissues in General. The Use of Hydrocarbon, Protheses (deformities characterized by depression or insufficiency of tissues, corrected by the injection of liquid paraffin or other substances); Amputations and Disarticulations; Cineplastic Amputations and Cinematic Protheses (An amputation during the performance of which a stump is created, which, by some special provision, is capable of individualized movement, or movements, apart from the general movement of the remnant of the limb as a whole). Artificial Limbs—Types. Excision and

Osteopathic Resections of Bones and Joints. The above is the outline of the contents of Volume I.

Volume II, part two, is a continuation of part two of Volume I, consisting of twelve chapters and 474 pages: Operations Upon Veins; Operations Upon Lymphatic Glands and Vessels; Operations Upon the Nerves, Plexuses and Ganglia; Operations Upon the Bones; Operations Upon the Joints (other than Excisions); Operations Upon the Muscles; Operations Upon the Tendons and Tendon Sheaths; Operations Upon the Ligaments; Operations Upon the Cartilages; Operations Upon the Bursa; Operations Upon the Fascia.

Part three: Special Operative Surgery. This section comprises two chapters and 247 pages. Operations Upon the Skull and Brain; Operations Upon the Spine and Cord.

We have thus outlined the contents of Volumes I and II. It is impossible to present in detail the vast amount of material presented within the space at our command. We can only say that the material collected by a surgeon of great opportunities and vast experience has been presented in logical order and will furnish the surgeon authoritative information on operative surgery.

The book is printed on heavy paper, substantially bound and with an array of illustrations that will materially aid the reader in following the text. With the four volumes, which are to follow, the surgeon will have in his possession a complete library on operative surgery.

PRACTICAL ANESTHESIA AND ITS SURGICAL TECHNIC

By Hobert Emmett Farr, M.D., F.A.C.S., Minneapolis. Illustrated with 219 Engravings and 16 Plates. Lea & Febiger, 1923. Price \$8.00.

The general interest in the use of local anesthesia in surgery has led to the publication of numerous valuable works on the subject. It is with sincere pleasure that we examine the views and experience of Dr. Farr, who has contributed much valuable information to the use of local anesthesia in operative surgery. It is apparent that general anesthesia, so long relied upon, does not meet all the indications. It is not probable that general anesthesia will be entirely superceded by local or other forms of anesthesia, but in many cases it will to a considerable degree. The enterprise of the modern surgeon is gradually widening the field for local methods of doing away with the pain incident to surgical undertakings. Successful local anesthesia, much preparation, accurate anatomical knowledge, a full equipment and armamentarium and an exact technic. It has required many years of study, observation and experiment to reach success.

Dr. Farr, after long and patient research into the causes of failure and into the conditions for success, presents to the profession a volume embodying the results of his work. The surgeon who has in mind the use of local anesthesia in his work will find great advantage in the study of this book.

LOCAL ANESTHESIA METHODS AND RESULTS IN ABDOMINAL SURGERY

By Professor Dr. Hans Finsterer, Surgeon-in-Chief Vienna Hospital of the Brothers of Charity, with 42 Illustrations. Authorized English Version, by Joseph J. F. Burke, M.D., Sc.D., LL.D., Buffalo, New York, Attending Surgeon Buffalo Hospital of the Sisters of Charity and Buffalo City Hospital. Rebman Company, New York.

Local anesthesia has now become extensively used in America in hospitals that are equipped for this work. It must be admitted that successful anesthesia requires trained and patient operators who have had considerable experience. Within the last few years several excellent books on the technique of local anesthesia have been published, each of some special element of merit. These books place it within the reach of every surgeon and anesthetist to acquire a theoretical and practical knowledge of this method of anesthesia.

We now have in Prof. Hans Finsterer's book an exposition of the method employed in his clinic in Vienna. The book is not limited to technique, but covers extensively the indications for local anesthesia in abdominal surgery and the special reasons why this method of anesthesia should be employed. It is not alone a question of relieving pain in a surgical operation, but also other questions which increase the chances of life and the fullness of results.

THE EXAMINATION OF PATIENTS

By Nellis B. Foster, M.D., Associate Physician to the New York Hospital; Associate Professor of Medicine at Cornell University, College of Medicine. Octavo of 253 Pages, Illustrated. Philadelphia and London. W. B. Saunders Company, 1923. Cloth, \$3.50 Net.

Dr. Foster's contribution to the list of works designed to teach the art of diagnosis, is one worthy of special note among several recently brought to the attention of the profession. Couched in clear, simple, yet elegant diction, replete with aphoristic statements which attract and hold the interest of the reader, the ease with which the subject matter is unfolded, tends toward ready comprehension of methods and their aims. He calls attention to the importance of backing up laboratory findings by clinical evidence, as in discussing results of the examination of stomach contents, when he says, "the significance lies in the accordance of test data with all other data."

After considering the Theory of Diagnosis, and the Assembling of Data, he continues with the Physical Examination of the various divisions of the body and the different systems, cardiac, digestive, etc. The Neurological Examination is dealt with in comprehensive manner, and the Immunological Tests, Tuberculin and Schick, are fully covered.

Always the emphasis is placed upon the necessity of practice in the making of examinations, that the data obtained may be accurate and reliable, as well as upon the need for judgment in the interpretation of what has been found. The first two chapters, those on Theory, and Assembling of Data, are well worth repeated reading, that one may digest some of the very common sense observations, as for example when the author calls attention to the futility and error of attempting, during a first call in a serious and distressing illness, to obtain too complete a history.

The book is well printed and illustrated, on good paper, and is a fitting vehicle for the presentation of the author's ideas.

H. R. R.

NEW AND NON-OFFICIAL REMEDIES

In addition to the articles enumerated in our letter of March 27, the following have been accepted:

Abbott Laboratories:

Procaine—Epinephrine Ampules, 1 c.c. (Abbott).

Armour and Company:

Anterior Pituitary Tablets, 2 grains (Armour).

Pituitary Tablets, 2 grains (Armour).

Parathyroid Tablets, 1/10 grain (Armour).

Lehn and Fink.

Sagrotan.

Eli Lilly and Company:

Iletin (Insulin-Lilly) U-40.

A. Lumiere Laboratories:

Cryogenine.

Mallinckrodt Chemical Works:

Neosarsphenamine—Mallinckrodt, 0.15 gm. Ampules.

Neosarsphenamine—Mallinckrodt, 0.3 gm. Ampules.

Neosarsphenamine—Mallinckrodt, 0.45 gm. Ampules.

Neosarsphenamine—Mallinckrodt, 0.6 gm. Ampules.

Neosarsphenamine—Mallinckrodt, 0.75 gm. Ampules.

Neosarsphenamine—Mallinckrodt, 0.9 gm. Ampules.

Neosarsphenamine—Mallinckrodt, 1.5 gm. Ampules.

Parke, Davis and Company:

Pituitrin "S" (Surgical).

Ampules Pituitrin "S" (Surgical), 1 c.c.

Welty Company:

Deodorized Kerosene—Welty.

Wilson Laboratories:

Desiccated Parathyroid Substance—Wilson.

Tablets Desiccated Parathyroid Substance—Wilson, 1/20 grain.

Tablets Desiccated Parathyroid Substance—Wilson, 1/10 grain.

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No. 7

PRESIDENT'S ADDRESS*

CHARLES RYAN, M.D., F.A.C.S., Des Moines

*Members of the Polk County Medical Society,
Ladies and Gentlemen:*

This meeting tonight marks the close of my term as president of our society. Therefore at this time I desire to again thank the members for the trust and confidence reposed in me, to express my appreciation of the honor conferred upon me, and to further emphasize my sincere gratitude to my fellow officers as well as the members of the society in general, for their cooperation, helpful attitude, and ready assistance accorded me in the performance of my duties.

The past year has been a rather busy one. The society has been most harmonious and concerted in its action. Undoubtedly the most outstanding activity of the year was the annual meeting of The Tri-State Medical Association which was acclaimed to be the most successful meeting in the history of that splendid organization. The enthusiasm, interest, and cooperation, the work done, and the attitude in general of the members of this society concerning that meeting, made possible the unprecedented success accorded it. As a result, Des Moines and the Polk County Society have stamped themselves indelibly upon the medical map of this great country.

The organization, cooperation and unified purpose of the local profession relative to this meeting demonstrate the possibilities for achievement in this community for our organization, and without hesitation I prophesy for the incoming officers increasing opportunities, broadening fields of endeavor, and greater achievement for the society during the coming year.

The Tri-State meeting this year filled the place of the annual Polk County Clinic. In October of the coming year we will have the opportunity of combining with our Polk County Clinic the annual meeting of The Medical Society of the Missouri Valley. This should be a great meeting, and with the valuable experience gained in the handling of the Tri-State, it will be possible to make

this meeting most beneficial to all concerned. I would offer as a suggestion relative to this coming meeting, that in the arrangement of the program, the members of the Polk County Society (with possibly a few of the visiting men) hold the dry clinics each morning at a central place, the afternoon and evening scientific sessions to be supplied by the visiting members of the Missouri Valley Society. Such an arrangement would put us on our mettle and would serve to pave the way for a greater Polk County Clinic each succeeding year.

The Tri-State meeting did more to establish a greater confidence in our profession in the minds of the laymen in this community than any medical event which has ever transpired in this city. Why? Was it because of the large attendance? The long list of eminent men who were present? The publicity in the daily press? The number of patients presented? The effectiveness of the organization in handling this meeting? To a great extent—yes—but the thing that made the greatest impression upon the laymen was the knowledge that twelve hundred medical men who attended the meeting were in their seats at seven-thirty o'clock in the morning and remained there until ten or eleven o'clock at night, to gather all information possible in modern up-to-date medicine, and to be in a position to apply that knowledge in their daily work for the benefit of their patients. We are greatly obligated also to the civic organizations as well as to the managements of the different hospitals, the public press, and the people of this community in general, for their splendid cooperation and assistance which contributed in a great measure to the success of the meeting. Their interest in our welfare and attainments should serve to make us realize that our responsibilities as citizens go beyond the realm of our professional activities, should make us cognizant of the fact that our duties as citizens are four-fold, namely; professional, economical, political and social. We should therefore give unhesitatingly and freely of our time, work and financial support, in all efforts which have as their object the betterment of the commonwealth in

*Delivered at the annual meeting of the Polk County Medical Society, Des Moines, Iowa, December 27, 1923.

general, irrespective of class or creed, approaching these duties not with the idea of "how much we can get out of them" but "how much we can put into them."

At the annual meeting last year, my predecessor Dr. Stoner, made some very timely suggestions, and it is my desire at this time to redirect your attention for a moment to two of his recommendations for your reconsideration.

First—The growth of the society numerically and in scientific attainment (there being approximately two hundred and fifty members), offering as it does but nine meetings a year for the presentation of scientific papers and discussions, with an average of two or three papers at each meeting, means that if each member be represented upon the program he would have an opportunity to appear but once in ten years. Each active member owes it to his society to at least occasionally take his place upon the program. In this connection I offer again for your approval the plan of semi-monthly meetings, and further, that each alternating meeting (or every two or three months) be open to the public, and the program arranged accordingly.

Second—"The importance of greater activity and deeper interest in public legislation." Should we not perfect a larger organization within our ranks to assist our committee on publicity and legislation in "making itself felt in forestalling any measure which might have as its ultimate object the disintegrating influence of state medicine or contract practice; measures which once authorized would have but a detrimental and degrading effect upon the medical profession in general," and would render the practice of medicine most undesirable to the great majority of the younger men who might elect to enter the profession in years to come?

This is an age of commercialism and advertising, but these factors of the business world cannot be allowed to enter too largely into the pursuit of our professional activities. True, we must exhibit sound business principles in our dealings with the public, but one of the greatest demoralizing forces in the medical profession today is the practice of commercializing patients by the commission plan which has been indulged in in recent years, and real action should be directed toward the elimination of this practice by a plan which would insure fair dealing and justice to all concerned. Advertising individually is to be decried, but ethical advertising collectively under proper censorship in this day seems to be not only permissible but absolutely necessary.

For ages the medical profession has stood for high ideals, its members have been respected citi-

zens in the community in which they lived, their counsel has been sought not only in matters pertaining to health, but also in all problems of domestic and business relations. From what source then, emanate the conditions that are influencing the laity to place less confidence in the orthodox medical man of today; what factors make possible the report of the committee appointed by the Illinois Medical Society to investigate "The Laity's Idea of the Physician?" Under date of September 22, 1923, the Literary Digest edits an article under the caption "What People Think of the Doctors," in which a summary of the committee's report is given. To those who have not read this article, I will say, read it. You will find it most interesting and amusing. Time will not allow a detailed discussion, suffice it to say that the medical profession is held to be not entirely blameless, and something is radically wrong when but nine hundred and thirty-one people out of six thousand seven hundred and seventy-two selected from every phase of society in and around Chicago have not at some time consulted some cult or quack, and that only three hundred and eighty-four out of the total six thousand seven hundred and seventy-two are absolutely loyal to orthodox medicine. If we are to overcome some of the influences which are directed against us, we must establish a closer relationship between the physician and the laity, and to establish a cooperative fraternalism between ourselves both in and outside our society meetings. Perhaps under the stress of modern times we are losing contact, losing also in that most valuable asset, "humanitarianism." In promoting a better understanding and relationship with the public we must keep in mind that our service does not end with medicine and surgery, but we must also be the personal and family advisor, a real friend and ready refuge in the time of trouble.

A review of the history of medicine discloses the fact that from earliest times the field of the reputable physician has been invaded by diverse pseudopractitioners of the healing art, and this condition will probably survive as long as the human family exists. This problem is largely a question of the "relation of the physician to the public," and is a tremendously important one; a problem which is engaging the attention of the guardians of public health the country over, and ways and means are being carefully considered for its solution. Establishing a closer contact between layman and physician by taking the public into our confidence by a logical ethical plan of education seems most promising. That plan of education which will teach the layman not merely where we stand, but how we got there, and which

encourages the acquisition of knowledge which will equip him to find his own path through the tangled thickets of fads, fancies, cults and pseudo-pathies; a plan which teaches him to read between the lines, behind the words, beyond the horizon of the printed page; to think clearly, to infer carefully, and finally to differentiate logically in his search for the truth of things, when the selection of a practitioner of the healing art becomes a necessity—such a plan will best meet the situation, if it can be evolved.

We can assist materially in bringing about a better understanding between the layman and our profession by making a greater effort to educate our own personal clientele in medical aspects in our daily contact with them, and in doing so our defense must be with an open mind, by right reason, and not be based upon mere prejudice or ignorance of the claims of those who differ with us in our opinions. We are members of "the one profession in the world where a man takes an independent attitude with a humanitarian point of view," and our slogan should be "to give protection to those measures which are calculated to secure to the community a well educated body of physicians."

In the drama of life the role of the physician requires that his principal scenes be enacted in the presence of pain and suffering, under pressure of disaster and disease. He must act courageously, enduring all evils, facing hardships and perplexities, overcoming obstacles, rising again after a hundred falls to struggle on, imbued with an energy of spirit and a strength of self-restraint unparalleled, seeing things as they are, striving to understand their nature, feeling the humor or pathos of every witnessed scene and ever following the light of truth, secure in his belief that his profession is inferior to none, that it is as noble an art as ever taxed the intellect of man, at all times, in all seasons, under every variety of circumstances are his ministrations sought; the summer's heat, the winter's cold, storm and sunshine alike witness his labors and attest his fidelity. Among the cities' thronged streets at mid-day you will note the roll of the physician's wheel, and in the still hours of the night you will hear his foot-fall as he traverses the pavement upon some errand of mercy. His duties begin with the first feeble breath of the newborn babe, and he is the trusted guardian of that human structure throughout its span of life. His is a life of service, realizing that the ultimate word, "the highest result of our human experience is to bring forth and build better men and women, able and willing to give of that which makes them better, to the world in which they live." And when the

final scene is played and the curtain falls on his earthly career, he rests secure for his future in the knowledge that he has given of his best to humanity in his past.

PRESENT DAY NEEDS IN AN EXAMINATION FOR LIFE INSURANCE*

MARTIN I. OLSEN, M.D., Des Moines

Life insurance has an interest in relation to all phases of medicine. Correct diagnoses are essential to the proper classification of risks. Preventive medicine, hygiene, sanitation, therapy and all measures which affect the general mortality and morbidity are vital to life insurance. It deals, however, more directly with the statistical side of medicine and with questions bearing on heredity, occupation, habits and disease as they affect longevity.

In making examinations for life insurance physicians generally show a desire to give impartial and complete reports. When difficulties and misunderstandings arise between examiner and home office, it is almost invariably due to a lack of knowledge on the part of one, of the problems, aims and needs of the other. If in the brief discussion to follow something in the way of broader sympathies, or a better understanding of selection problems may be gained, the time will have been well spent.

HISTORICAL

In the early history of life insurance the selection of its membership was in the hands of a lay committee, who accepted or rejected the prospect largely on his general reputation with little, or at most, casual reference to his physical well-being. As the business grew, it became manifest that this method of selecting risks did not adequately safeguard the interests concerned. At first, physicians were retained merely in an advisory capacity to deal with special cases, where medical questions were involved. Gradually it was felt that the problems of selection were primarily medical, with the result that the entire responsibility was placed in the hands of medically trained men, the home office staff and the field examiners. And it may be said that the present status of life insurance is in no small degree due to the medical profession and that the security of the institution as such rests largely on the knowledge, skill and honor of the physician.

Prior to two decades ago, American companies limited their acceptances almost wholly to standard or normal lives; i. e., to such lives as would produce mortalities within the limits of the indi-

*Presented before the Seventy-Second Annual Session, Iowa State Medical Society, Ottumwa, Iowa, May 9, 10, 11, 1923.

vidual company's standard. Under this system, the benefits of life insurance were limited to a select group and denied others having physical or other impairments, often of a trivial nature. The selection was largely empirical, and a matter of tradition within each company. Obviously the difficulty lay in establishing what should be classed as normal and how much departure from accepted standards in build, physical condition, family or personal history might exist, and still permit of a classification of standard. The question was largely one of impression or opinion, and each case was decided according to the light or bias of the particular physician in charge.

Feeling the need of a better basis for selection the combined material of the larger companies was made the subject of analysis and study. This statistical study of homogeneous groups of lives has been carried on down to the present time, and as a result, important facts bearing on the various impairments and their effect on longevity have been established. The value of statistics generally is limited by the accuracy of the data entering into them. If examiners' reports are reasonably accurate—and in most respects they undoubtedly are—life insurance statistics have value and should be a fairly safe guide in our selection of risks.

Not only have these studies given a basis for acceptance of standard lives, but they have also furnished data on which lives varying in greater or less degree from the standard might be accepted on a basis of safety to the company and benefit to the applicant. While somewhat limited and fragmentary we still feel that our data is ample to assess with a considerable degree of accuracy, the hazard or importance to be attached to many of the impairments encountered and adjust the premium rates accordingly. As a result, many of the companies are at this time soliciting and insuring sub-standard or medically impaired lives, and thus extending the benefits of life insurance to a large class of individuals greatly in need of the protection.

Not only has life insurance expanded to embrace larger numbers, but the scope of the benefits generally has been enlarged to cover a variety of human conditions. Among the newer features in policies one need but mention the disability clause, which provides for waiver of premiums and payment of a fixed monthly income without deductions from the face of the policy during the period of total and permanent disability.

I have dwelt at some length on this phase of the more recent developments in life insurance because of the important bearing it has on our work as examiners. Selection of risks is based

largely on the examiners' report. If the prospect is to be properly classified and a corresponding premium charge made, it is imperative that the company have all the facts.

RELATION OF EXAMINER TO APPLICANT

The purpose of an examination for life insurance is to establish the physical and moral fitness of the individual for acceptance on a basis of equality with similar individuals. The examination differs in no particular from an examination for any other purpose, but the relationship of examiner and subject is somewhat different from that existing between physician and patient. In the one case the individual presents himself on his own initiative and volition, to determine his physical condition and obtain needed advice. In the other, the examination is made at the request of the company or its agent and the physician renders his report and advice to the company, whose interest he now represents and to whom he is directly responsible.

The distinction is of real importance. A patient usually has an active memory and relates freely and fully all facts pertaining to self. On the contrary, an applicant for life insurance, consciously or not, is prone to omit features in family or personal history, which if known, might be determining factors in his acceptance or rejection. Unfortunately no blank has yet been devised which compels the individual to disclose his mental attitude, and not infrequently an individual knows far more about himself than the usual examination will disclose. The cases with intent to defraud test the ingenuity and skill of the physician, and mark out the expert from the mediocre examiner.

RESPONSIBILITY OF EXAMINER

An examiner for insurance has a threefold responsibility. In the first place, the company employing him is entitled to a fair and impartial report on every case referred for examination. He should convey to the company all facts elicited by his examination and permit the medical director of the company to judge the merits of the various features entering into the case. The examiner should bear in mind that he is acting for the company, and that knowledge acquired by him in the course of an examination is the property of the company. The opinion of our courts is very definite in this matter, and the examiner assumes unnecessary responsibility when he decides what may or may not be material to the case, and withholds from the company any such information.

In the second place, the examiner should feel it his duty to protect the interests of the prospective policyholder by not withholding facts which

may have a bearing, and thus exposing him to the suspicion of misrepresentation or fraud and the consequent danger of having his policy voided.

The third party having an interest is the agent. An efficient examiner will cooperate with the agent in getting all referred cases examined at the earliest possible moment, consistent with good examining. Many a loss is sustained to the agent by the examiner's failure to respond promptly, or to keep an appointment.

THE EXAMINATION

The examination takes into account the personal and family history, the physical examination and the laboratory findings.

Physicians express the opinion not infrequently, that our blanks stress history unduly at the expense of the physical examination. On this matter Dr. Richard Cabot says: "Physical examination is always valuable, but if I had to choose between that and the history I would always rather have the history." What is so important in the early diagnosis of pulmonary tuberculosis as a history of cough, evening rise in temperature, slight gradual loss in weight, etc.? What is so suggestive of early cardiac disease as a history of palpitation, fatigue and dyspnoea on slight exertion, etc.? How often do we diagnose a case of angina pectoris without a history of anginal attacks? History not only develops the earliest symptoms and evidence of disease, but it directs attention to the organs which should receive special attention in the physical examination. The questionnaire in the average blank is no doubt defective, in that it attempts to determine the scope of questions to be asked, rather than to give the examiner wide latitude. And the blank of the future will be simplified in keeping with our constantly improved grade of examiners.

Family history and questions pertaining to heredity and association are factors of importance in selection. An earnest effort should always be made to record the family history correctly. Every individual should be able to supply approximate ages, condition of health or the cause of death as the case may be, of the members within his immediate family, or give a satisfactory reason for not knowing these facts. It is common to us all to cover up features that are less favorable in family or own past history. An answer given as "don't know" is not satisfactory and invariably calls for an explanation. When the facts are known "don't know" is in the majority of cases found to be tuberculosis, insanity or suicide. At times misleading answers are given. Reporting a case of suicide by hanging as "accidental fall" is a case in point.

While heredity as a factor in tuberculosis is quite generally discounted, applicants at the younger ages are selected with care. Even with rigid selection and exclusion of all underweights, younger individuals of this class are likely to show a mortality in excess of the normal, with a preponderance of deaths from tuberculosis. This is no doubt a matter of association rather than heredity.

The very decided effect of the degenerative diseases in relation to heredity is too well established to call for comment. They are mentioned only to emphasize their importance to life insurance and the need of recording correctly all such deaths.

In the present state of our knowledge little can be said of cancer in relation to family history. The work of Maud Slye and others suggest that we are probably disregarding this factor in heredity more than is warranted. Until such time as we make better diagnoses and are in position to establish with more certainty the family record for several generations, the relation of heredity to cancer will probably remain unsolved.

Our medical blanks call for only such examinations and methods of diagnosis as are common to the general practitioner and in the majority of cases this is adequate and ample for all needs. In this age, however, when life insurance is sought in large amounts for business and other reasons, and when it is dealt in much like any other commodity, it becomes more urgent that we avail ourselves of everything that clinical and scientific medicine offers to detect the beginnings of disease.

In reviewing examiners' reports one is impressed with the fact that the simpler methods of diagnosis, such as inspection are much neglected. Such evidences of disease as pallor, cyanosis, dyspnoea, tremors, inequality of pupils, nystagmus, emaciation and a host of others, often appear to go unnoticed, and even grosser lesions such as the loss of an eye or an extremity, marked deafness, etc., are at times not deemed worthy of mention. What we do need in the average case is not more refined methods of diagnosis, but more application of the means in general use. If every individual be stripped to the waist line and careful inspection combined with the routine examination of respiratory, cardiovascular, renal, nervous and other systems, the percentage of error in examination reports would be largely reduced. And these errors are exceedingly costly. An Eastern company is at this time paying a first year claim for \$200,000 because two good examiners failed to look for, and note an Argyll-Robertson pupil and an absence of the knee jerks.

Within the past ten days the writer has seen a well defined case of *tabes dorsalis* escape the attention of an accredited examiner.

The errors met with most frequently would appear to be the result of carelessness and inattention rather than inability of the examiner. When examining individuals known to us, we are prone to take too many things for granted and as a result fail to investigate and develop the exact condition. Other sources of error are the hurried examinations we are frequently asked to make, and the making of these under conditions which do not admit of good examining.

The physical impairments met with most frequently and those which concern us most nearly in our selection problems are the overweights, the cardiovascular group and those related to the urinary findings.

Data on build can be arrived at accurately and as a result the rating of an overweight should be a simple matter. The associated impairments particularly of heart, blood-vessels and kidneys render the group rather hazardous as insurance risks. It is especially important in this group of cases that the actual measurements and weight be submitted rather than estimates, which are found to be notoriously inaccurate and misleading.

Cardiac disease offers perhaps the greatest difficulty, due no doubt to our limitation in diagnosis of this group of diseases. Companies doing a standard business reject more cases for heart trouble in some form, than for any other single cause. Even with extreme care in selection, cardiac disease is found to be the largest single factor in our death claims, while many of those declined for supposed heart trouble live to a good old age. One is forced to the conclusion that early heart changes often escape detection, and that murmurs and other alleged lesions may be present without necessarily impairing the heart.

For insurance purposes heart impairments are classified on the basis of murmurs and degree of hypertrophy. While probably unscientific and admittedly unsafe, statistics have been based on these groupings and companies will follow them until such time as we shall have standardized tests to measure more nearly the functional capacity of the heart and such tests as can be applied by physicians generally.

For the present it is imperative that we obtain correct anatomic diagnoses of our heart cases. A complete history with report of all findings including time relation of murmur to heart cycle, quality, its point of maximum intensity, transmission, size of heart, response to exercise tests, signs of decompensation, etc., must be recorded

if the impairment is to be correctly judged. A bare diagnosis of the impairment is wholly inadequate for insurance needs. The field man has but to place himself in the position of the home office examiner, trained as he himself is, and with the same means of diagnosis, to know what information he must have to determine the condition of the heart.

Closely related to other heart tests is that of blood-pressure. Taken in conjunction with other findings the readings are often of value. Departures from the supposed normal should be considered as symptomatic and search made for the primary condition. Impossible and absurd readings are still being recorded by some physicians. It would appear that with a test in such general use and so easy of application, the principle and technique should be known to all physicians.

The routine examination of the urine combined with the personal history and the related heart and blood-vessel findings will usually determine the kidney condition. For insurance purposes an attempt is made to assess the damage to the kidneys by the amount of albumin in the urine, whether it is constant or intermittent in appearance, and the associated microscopic findings. To a clinician it is obvious that the routine analysis of a single specimen may be very misleading and that the criteria just noted are not an adequate measure of kidney function. With these facts before us, it is not a matter of surprise that individuals with impaired kidneys often escape detection when examined for life insurance.

In the foregoing, brief note has been taken of the cardiovascularrenal group of diseases because of their special importance to life insurance. These diseases make their appearance in middle life, at a time when the need for life insurance is felt most urgently, and when the bulk of insurance including practically all the larger policies are placed. Heart disease, nephritis and apoplexy combined, account for more than one-fourth of all deaths in the registration area and even a greater percentage of insured lives. The bearing on life insurance is obvious. Greater care is needed in the diagnosis of these diseases. Examinations for life insurance also afford an opportunity for the early detection of these diseases, often before the individual is aware of any trouble, and at a time when much can be accomplished in a remedial way. Some method should be found of conveying to the individual the essentials in his examination without danger of involving the examiner in controversy and other unpleasantness. Because of our failure to do so, the benefits from early detection of disease are not being fully realized.

It may not be amiss to warn against the individual who has groomed himself for the examination and it would appear that this practice is not uncommon. The systolic blood-pressure may be lowered temporarily, the weight reduced and the urine made free from albumin and sugar by diet or drug therapy. Men who earn large salaries and can carry the larger policies are subject to much greater nervous and mental strain than the average individual. They can afford the luxuries of life and are more prone to indulge their appetites. These features combined with a sedentary occupation are not conducive to health and longevity, and as a class they produce a mortality greatly in excess of the average policyholder. The greatest care is necessary in the examination of these men applying for large policies and the time is probably not far distant when life insurance will call to its assistance the x-ray, the electrocardiograph and other diagnostic aids in this class of cases.

In a state like Iowa where the profession as a whole measures up to a high standard, there is little difficulty in selecting examiners who can and will render good service. When operating over a wide field, however, it is found that the quality of reports submitted by examiners differs widely, and it is important that we have some gauge by which the work of an examiner can be measured. In addition to the general impressions of the work gained by the home office staff, a card system is in vogue in many offices on which a record is made of such features as pulse, temperature, specific gravity and blood-pressure readings, number of omissions, impairments present but not found, early disability or death, etc. When on review of these cards we find practically identical readings for blood-pressure, pulse, and specific gravity recorded for any number of individuals examined, it inclines one to the feeling that some of our examining is done in a rather perfunctory way.

In closing I would emphasize the need of more knowledge along the line of statistical and insurance medicine. A paper on some phase of the subject at the state meeting, an occasional discussion of special problems before the county and local societies, and possibly a little space set aside in our State Journal should make the subject more familiar to all and make for better examining.

If in addition to this, our medical schools might be impressed with the need and value of giving a little attention to this branch of medicine, the problems would be largely solved. If correctly advised there are less than one-half dozen medical schools in the country, that provide

for any instruction in making life insurance examinations. In a paper before the Medical Directors' Association some years ago, Dr. Symonds of the Mutual Life Insurance Company made a plea for undergraduate instruction in this work and suggested that the following topics be covered in the course:

1. Some instruction in vital statistics and the fundamentals of life insurance.
2. The relations of the examiner to the company and the applicant.
3. The facts concerning each disease which are of importance from a life insurance point of view.
4. Habits, occupation and environment.
5. The family record and heredity.
6. The physical examination, particularly with reference to the distinction between essentials and non-essentials.
7. The relations of the examiner to the agent.
8. Frauds and fraudulent practices.

I would urge that our own medical school take the lead in this matter and seriously consider adding a course of instruction along the line suggested.

Discussion

Dr. William L. Allen, Davenport—There are two outstanding points which the essayist has brought out, and I wish we might select these from all this valuable paper and emphasize them still more. (1) The relationship between a medical examiner and an applicant for insurance is entirely different from that between doctor and patient. The patient tells you all about himself, in many cases making the diagnosis for you. When the applicant comes in for examination he does not say a word. He does not mean to deceive you, at the same time he says to himself—let us see what he can find out; my family needs the money, and if there is anything wrong it is up to him to find it out. So he conceals a great deal. The essayist called attention to Dr. Cabot's statement that the most important thing of all is the clinical history. That is the trouble in the ordinary examination, you cannot get a personal history. Dr. Cabot stated that if he had to dispense with the family history or the physical examination, he would take the history. There are some conditions that are vastly more important than is cardiovascular disease, except that you do not have them so often; that is, stomach diseases and gastroduodenal ulcers, the last named condition being one of the worst things with which we have to deal. How could any company stand any such loss as that group represents? Perhaps Dr. Jepson or somebody can tell you. The point I am stressing now is, how can you in an ordinary examination find out whether a man has an intestinal trouble or gastric ulcer, unless he tells you? That is a very important point. (2) This point is one which the army has recommended in all our examinations, and that is inspection. It has been stated that more than 40 per cent of our applicants are examined without even taking off the collar.

Some men are examined in the cornfield. How can one examine an applicant for life insurance in the corn field? That is not a fair deal. It is not done so much in this state as in some other states, but it seems to me those factors should be considered. If on the bottom of our list we could put this: I have inspected this man with his clothing removed; I find that his color is good, there is no lagging of his inspiration or expiration, he has no murmurs over his heart, no varicose veins or pallor about his skin—I would take your judgment in regard to that man to a far greater extent than would be possible as these examinations are now conducted, and, I am sorry to say, by a great many good examiners.

Dr. J. H. Chittum, Wapello—We have heard this question discussed from the chief examiner's standpoint. I have just a word from the standpoint of the man in the field. Frequently we are called upon by the agent to go away out in the country to some farmhouse and make examination. He is afraid the prospect will get away from him if not examined promptly, and he perhaps receives a letter from the company asking why he has not had him examined. The ordinary examiner cannot compel that man to come in and be examined. I do not believe any man can make a satisfactory examination in a farmhouse or cornfield. Every life insurance examination should be made in the doctor's office. We are supposed to give weight and measurements. We cannot do this on the farm. Dr. Allen has referred to the fact that sometimes a little friction arises in correspondence with the medical director. My experience is that friction is more likely to occur in our relation to the insignificant local or district agent. So far as we are concerned, our experience with the home office medical department has always been very satisfactory and happy, but some men in the agency director offices think they know a lot about life insurance examinations. The one point I wish to emphasize is that no man can make a satisfactory examination for life insurance away out in the country somewhere, and I would suggest to the companies that they rule out this matter and insist that every examination be made in the doctor's office, where he can conduct a real life insurance examination.

Dr. George E. Decker, Davenport—I am very glad this paper has been presented here because it is on a most timely subject. The evolution of medicine in the last few years has not left insurance medicine untouched. We have made progress in surgery and obstetrics and in the ordinary branches of the practice, and we have been making progress in insurance medicine as well. We find that there is some difficulty in getting over our home office viewpoint as contrasted with that of the examiner in the field. The local examiner makes the first selection of our risks, but further selection is made in the home office, and in addition the medical department of the home office makes selection of the examiner. This is a very important point and one which I think ought to be thoroughly discussed here because the selection of medical examiners in the field is now be-

coming very much more rigid than was formerly the case. Since there has been vast improvement in all the branches of medicine in the last generation, the companies have a right to expect that there has been a corresponding improvement in the technic and work done by the local examiners. Some seven or eight years ago the companies domiciled in Iowa arranged to have their medical directors form an association in which could be discussed all of the problems connected with medical selection, and more particularly the problem of the selection of our local examiners. We found the plan very helpful, through exchange of information which we had at first hand, in finding the examiners in the field who were ready and able to give us the best service and the service for which the companies believed they were paying. In the course of time and within the last few years we have managed to elaborate and arrange a medical examiners' list covering the state of Iowa, which enables us to classify the examiners in three grades—1, 2 and 3. In grade 1 are the examiners who are outstanding, first-class, fine examiners and in regard to whom every medical director will say, "I will accept Dr. A's word for anything he puts on paper." Class 2 comprises the vast majority of average examiners for whom or against whom there is not much to say. Class 3 embraces the relatively few who have had to be discontinued by companies for unsatisfactory service. When we got together to work the matter out, it was astonishing how all the companies agreed on the first-class examiners. Of course, in the group comprising the average examiners it was a little difficult to classify them, because many of them were in the No. 2 class simply because they had done but a small amount of work for any of the companies. There was ready agreement regarding Class 3; we found that where one company reported a man's services unsatisfactory many other companies had found the same thing, and thus it was easy to rule out that individual. Having arranged this list, which consumed considerable time, we found we had a pretty good solution of the problem of selecting medical examiners in Iowa, and it was not long before companies outside the state who were writing business in Iowa, began to ask us for this carefully selected list of examiners, and I am told by our secretary that we have now sold to outside companies more than twenty copies. This is going to result in a concentration of medical examining for insurance companies into the hands of the men who are able and willing to do first-class work, and gradually the men who feel that perhaps they are doing more for the company than the company is doing for them, and are therefore giving the work a "lick and a promise," will find that they are doing less and less of that work. And possibly that will be mutually satisfactory—I do not know. It is not difficult to figure that in the state of Iowa each year more than \$250,000 is distributed in medical examiners' fees. Many of the men are getting a good deal more than their share, and some of the men are getting considerably less than their share. But, by reason of the

selection of examiners that is being made, it is going to happen that the men who do the best work are going to have the most work to do.

Dr. M. L. Turner, Des Moines—In the discussion of this subject we would like to go a little further into detail. Every company keeps a record of their medical examiners. Here is a little card we use in the Western Life of Des Moines which carries considerable information. We have first the town where examiner is located, the name of the examiner, the companies for which he examines. On this card are listed the Western Life, the Banker's Life, the Equitable Life. When an examination comes from the examiner this card is placed by the clerk upon this examination. Next, the school from which he was graduated, the date of his birth, the date of graduation, how long he has practiced in his own county. If he has practiced in his own county for some time he is better able to make examination than a new comer. When this examination has been gone over we rate this man A, B or C. If it is a Class A examination we so check it, if Class B we so check it, if Class C we so check it. We then have at our command in the office information as to exactly what kind of work the man is doing. Every company is listing these men, so when that examination comes we know whether or not the examiner has done good work. If we find he has made a number of poor examinations we drop him from the list. In this way we are able to keep our examiners classified and we aim to keep none but Class A examiners. The life insurance companies of the United States pay more money to medical examiners in the field than any other business except the railroads. Why should we not have for examiners the best men available? Some twenty-five to thirty per cent of the examinations that we receive have to be sent back for corrections or additions, which entails much expense. If these examinations are complete when sent in, this saves a great deal of trouble and expense. Many times a man simply has been careless about his work. As Dr. Decker has said, we have an organization in the state of Iowa which is trying to find out who are the best examiners in the state, and it is our hope that in the future there may be other papers presented before this society which will be instrumental in inducing life insurance examiners to make complete medical examinations.

Dr. James Taggart Priestley, Des Moines—Dr. Allen has referred to a most important point: is there any money in this work? In 1898, when I was in the midst of a very heavy practice, the insurance companies—not including my own—paid me \$8,000 in one year. Financially that was a very good showing, so there is in this work good pay. We should have a complete examination. The company employs you, not the agent, and if the agent should want you to go to a boiler factory to see an applicant for insurance, would you go there and make the examination? You would not be doing justice to the company if you did. You talk about stripping people. Since 1896 I have stripped applicants to the waist. When a

woman is the applicant it is necessary to make an adequate examination. When I ask in a nice way that she remove her clothing with a nurse to assist her, she never objects. You want to know "where the apex beat is." Many companies have a diagram of the chest and ask the examiner to mark on this the location of the apex beat. It is no trouble to have the woman herself arrange the breast, then it is a simple matter to locate the apex beat. You can strip the woman to the waist and make a thorough examination. I have done it for many years. I have examined applicants in the home. One of the company's rules is that no one other than the applicant shall be present during the examination. Why? An applicant does not like to tell an examiner before the mate that he or she has had some venereal disease; they do not like to answer the question even under perfect secrecy, hence the necessity for a private examination. Great improvement is being made all the time. We need good examiners; we need men who will help to a certain extent, but we do not want men who will be guided by the agent alone. I want to emphasize this point to the gentleman who just spoke, and spoke very truly. The agent is not the company. You are employed by the company to give a full, fair examination. In the old time the agent would come back and say, "Dr. Jones is never in." That does not go any more—it is a thing of the past. We have our examiners and the agent cannot change the examiner without the consent of the home office.

Dr. Ross Houston, Des Moines—Every doctor who is an examiner for an insurance company is responsible to the medical director of that company, and when you have an occasion like that do you sit down and write to the medical director and tell him the facts? He is not a mindreader, and if you don't tell him it is very certain the agent will not tell him. As a rule insurance men are honest, and the difficulties they have in the field with physicians are due to a lack of understanding between the two. When you have an occasion like that and believe you have been imposed upon by an agent, sit down and write the medical director a personal letter, under a personal cover, and your confidence will be appreciated by any company in the United States. Another thing is that insurance impairments are impairments of slight degree. The fellow that is really impaired seldom applies for insurance. Recently I heard an eminent medical authority say that the increase in the life of diabetics could be credited to life insurance examinations. Over a period of years he kept track of the number of diagnoses of diabetes that had been made by life insurance examiners, and the rate was very high. Therefore he gives the examinations credit for early diagnosis and treatment in these cases.

Dr. W. W. Bowen, Fort Dodge—In regard to the local examiner doing as he pleases and not conforming to the agent's wishes: In the case of a company in our town that has six examiners in the field, if you do not please the agent you do not get the examinations.

Dr. Clay D. Fellows, Algona—What we want of our medical directors is that they stand behind the local physicians. When you find a company that stands behind the local physician, the local physician will stand behind the company. Then you will get the truth in all cases. Another point comes up for consideration. The agent wants you to examine the applicant very quickly. Agents are always in a hurry, and the agent wants the applicant examined right then and there. You go ahead and do it, the agent complains to the company and the medical director says, we will get some other physician. Don't do that—stand behind the physician and the physician will stand behind you.

Dr. Jacob S. Weber, Davenport—Dr. Allen referred to gastroduodenal ulcers. I think we should make every person presenting symptoms of dyspepsia or indigestion prove he has not an ulcer. A diagnosis of most typical gastric ulcers can be made by the life insurance examiner on the history alone. Dr. R. Cabot, in presenting a list of cases in which epigastralgia was the chief complaint, found that in that list 900 were due to gastrohepatic congestion found with cirrhosis, 300 were due to peptic ulcer, 330 to gall-stones, 325 to hyperchlorhydria, 7 to pancreatitis, 350 to chronic appendicitis, 8 to pericarditis, and only 72 to neurosis. These statistics bring home the plain fact that neuroses are a very minimal factor in epigastric symptoms. Are we not too easily tempted to play just a little too often and too long with neuroses? A staff from one of our largest life insurance companies visited the Mayo Clinic a few years ago in compiling data for statistics relative to prognosis of post-operative gastroduodenal patients. Their conclusions were that post-operatively a duodenal ulcer applicant is as good as any other normal one. Therefore that history is ignored, but in gastric ulcer the possibility of malignancy, etc., gives an added percentage of risk.

Dr. George E. Crawford, Cedar Rapids—The few words I have to say will be from the standpoint of the examiner. One of the esteemed honors of my professional life is that for many years I have been examiner for a number of the great companies, as well as many of the lesser ones; for forty continuous years I have been an examiner for one of the great companies—one of the best, one of the most conservative,—and I am their chief examiner today. Therefore I know something about life insurance from the standpoint of the examiners. Also I have been a medical director for seventeen years and have learned many things from that viewpoint. To be brief, the thing that the insurance companies want of an examiner is to get the facts as nearly as they can be ascertained on any given subject. Some examiners will become offended if, after examining a man they have known all these years and given him a good recommendation, he happens to be rejected or his application modified. Now, we all have to learn as examiners, that that really is none of our business. We are employed by the company, to ascertain the facts, and those facts belong to the com-

pany; and we will have to learn that the company has means of finding out a great many things we do not know. In the course of that forty years I have sincerely recommended men I thought were all right; and have found out there were things about them I did not know. Since the American Life Convention became affiliated with the great eastern Association of Medical Directors, 98 per cent of all reported impairments in the United States and Canada are known to practically every insurance company in the United States within three days after they occur. The examination of a candidate for life insurance is very different from examining the same individual as a clinical subject at his home, principally to find out if anything is the matter with him. There is a singular psychological condition which directly brings about a lapse of memory. That is not always falsehood; they do not realize they are lying, although there are many degrees of lying. A good examiner is the man who can read between the answers and find out the facts. In the course of time such a man will become established as an examiner, and his word will carry great weight with the insurance companies he represents.

Dr. Olsen—I would like to emphasize one point: That the data which Dr. Priestley has set before us were not presented merely hit or miss, but are based on rather large experience. The great companies are throwing their material together, and when they decide that a mitral regurgitant murmur without hypertrophy has a certain mortality, this is based on an experience that they have had over a period of years.

TUBERCULOSIS OF THE KIDNEY*

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The established fact that about 30 per cent of all surgical lesions of the kidney are tuberculous makes it evident that anyone who is frequently analyzing cases with bladder and kidney symptoms should have tuberculosis of the kidney indelibly stamped on his brain. Furthermore, except possibly in rare instances, renal tuberculosis does not recover on medical treatment as does the pulmonary form. Therefore, early diagnosis and early surgical treatment is imperative if we hope for a cure. In my perusal of medical literature I have never seen an authentic case of spontaneous recovery from renal tuberculosis. The ultimate outcome of practically all cases not subjected to surgical nephrectomy is complete destruction of the kidney, mixed infection and death. Renal tuberculosis in the early stages is practically always unilateral and therefore operable, while practically all authorities agree that

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when the disease has invaded both kidneys any treatment is of no avail.

In this paper I will be content to discuss only chronic surgical tuberculosis and will not be concerned with the acute miliary or the toxic tuberculo-nephritis. "This disease is unilateral at first in 90 per cent of cases, primary in the kidney as far as the urinary tract is concerned, but usually secondary to some other focus in the body. The primary focus is in the lung in about 30 per cent of cases (Braasch), but bone, gland, bowel and genital tract involvement are not uncommon. Epididymitis, prostatitis and vesiculitis occur in quite a large percentage of cases. In 85,000 operations at the Mayo Clinic .6 per cent were for renal tuberculosis. Kapsamer in 20,000 autopsies found 191 cases of renal tuberculosis, of these 191 cases 67 were unilateral and 124 bilateral. A great majority of these cases showed old processes in one kidney and early in the other, indicating that the process had been unilateral at first."

The mode of infection in renal tuberculosis has been a subject for heated discussion for years, and even at present, there is no unanimity of opinion among authorities, but the old idea that the infection is an ascending one from the bladder has been discarded. Lymphatic infection undoubtedly occurs but it is rare. Extension from the apex of the lung through glands along the aorta through the diaphragm to the kidney has been demonstrated by Bromgersma, at autopsy, but without question the usual mode of infection is hæmatogenous. This is quite conclusively proven by the fact that pathological reports have shown that the early lesions are found in the substance of the kidney usually at the base of the pyramid, the pyelitis coming on secondarily. Tuberculosis anywhere in the body no doubt at various times gives rise to temporary bacillæmia, and it is quite reasonable to believe that the kidney, since it is the filtering organ of the body, may quite easily become infected.

Kidney tuberculosis is a disease of young adult life, more common in males than females, and quite strikingly uncommon in negroes. About 15 to 20 per cent give a positive family history.

The pathological processes present do not differ greatly from tuberculosis elsewhere and depend upon the chronicity of the lesion. They may range from one isolated focus to complete tuberculopyonephrosis—caseation with the usual cavity formation is common. The disease has a tendency to gradually invade the pelvis, causing pyelitis. Tuberculosis invasion of the peri-renal fat is not uncommon, and persistent sinuses following nephrectomy are often due to this involve-

ment. The ureter sooner or later becomes involved, resulting in ulceration, sclerosis, and many times strictures. When the process is slow and obstruction in the ureter gradual, and complete, the result is a small caseated so-called putty kidney. Infiltration of lime salts occur quite frequently and about 20 per cent of these cases will give positive x-ray shadows. Coincident with the lesions in the kidney, the bladder becomes involved and the process begins in the ureteral orifice corresponding to the diseased kidney. The earlier lesions are the typical tubercle which later undergo caseation and ulceration. The lesions gradually spread and ultimately the whole wall of the bladder becomes involved. The infiltration of the various coats of the bladder prevents the normal contractibility and distensibility of the organ.

The early symptoms of renal tuberculosis are very misleading, and its presence often not suspected, because the patient's chief complaint is practically always referable to the bladder. The earliest symptom in about 85 per cent of cases is frequency of urination, and in early cases this may be the only symptom, the patient otherwise appearing to be in perfect health. Painful urination, especially terminal, hæmaturia and pyuria are quite constant findings. Hæmaturia may be the only complaint. The usual history of a typical case is that a young adult gradually begins to complain of frequent and painful urination, turbid urine and vague kidney pains. The patient is usually first treated for cystitis, which does not clear up under the usual treatment and is aggravated by silver or urotropin. I have found the following rule by Caulk a good aid in diagnosing renal tuberculosis. An unobstructed bladder in which stricture, prostate, stone and gonorrhoea can be ruled out, and which shows no tendency to subside under thorough local treatment, is usually tuberculous. All cases of long standing cystitis uninfluenced or made worse by treatment are suspicious. Constitutional symptoms are present in a small percentage of cases, and they consist of the usual evening temperature, night sweats, loss of weight and anorexia. Tuberculous history, especially of pulmonary tuberculosis, should of course be given great consideration in arriving at a diagnosis of disease in the kidney. If the symptomatology as above described points to tuberculosis, we have at our disposal many means by which we can usually make the diagnosis certain. They are as follows: 1. Cystoscopy and ureteral catheterization. 2. Examination of the urine. 3. Guinea pig inoculation.

Cystoscopy in the tuberculous bladder is a

very difficult procedure, because of the extreme vesical irritability and lack of distensibility. General anesthesia often becomes necessary and recently sacral anesthesia has come into vogue and is very satisfactory in the hands of some. Cystoscopy very frequently gives such a characteristic picture that the exact diagnosis can be made from this alone. In early cases there may be nothing visible except definite congestion around the ureteral orifice corresponding with the diseased kidney. Usually the early case will present small elevations in the form of nodules, about the size of a pin head and red or brown in color. In later cases these are replaced by definite ulcers which are round or irregular in form and surrounded by a red border. They often have the appearance of a finger nail scratch or dent. The base of the ulceration is wrinkled and dirty yellowish in color. The mucosa in the region of the ulcer is always very red and thick. When the above manifestations are limited to one ureteral orifice, the opposite orifice appearing normal, the diagnosis of renal tuberculosis can be made with cystoscopy alone. Both ureters should be catheterized if possible and the urine from each kidney examined for tubercle bacilli. At the same time the function of each kidney can be determined by injecting thalein intravenously. Hazy limpid, acid urine containing a few red cells, considerable pus and no bacteria with ordinary stains is very suggestive of tuberculosis. A very careful search for tubercle bacilli should be made, and the organisms should be present in 75 to 80 per cent of cases. Occasionally a provocative injection of old tuberculin may cause tubercle bacilli to appear, when otherwise not demonstrable. This however should never under any circumstances be done when there is positive evidence of active foci of tuberculosis in other parts of the body especially the lung.

Guinea pig inoculation is very helpful but not always necessary. About 3 per cent of guinea pig findings are negative in positive tuberculosis.

Pyelography is of no value in early cases with no pelvic involvement. A typical finding in later cases is a fringing of the renal pelvis which is not seen in other conditions.

In the differential diagnosis the chief conditions in the genitourinary tract which may be confusing are chronic pyelitis due to bacteria, other than the tubercle bacilli, renal tumor, renal calculus, so-called neurotic bladders, chronic cystitis of colon bacillus origin and so-called essential hæmaturia. In my opinion the most difficult and the most usual condition

which must be differentiated is pyelitis or pyelonephritis due to pyogenic organisms or the colon bacillus. The symptoms may be identical. Cases of simple pyelitis always show pyuria, very often red cells are found in the urine and frequency of urination is common. The only positive way that the two can be differentiated is by demonstration of tubercle bacilli in the urine, positive guinea pig findings and finally typical cystoscopic findings of tuberculosis. But remember that early tuberculosis may be present in the kidney with the above findings negative. So in these cases the diagnosis must be guarded and the case kept under observation. I only recently saw a lady who was complaining of frequent urination, general lassitude, and vague pain in the left kidney region and who had pus and a few red cells coming from the left kidney. There was a definite family history of tuberculosis and she herself had been treated for tuberculosis in a sanitarium. About two years ago she was examined by two prominent urologists, and in spite of negative tuberculous findings in the urine and negative guinea pig findings, and on the strength of the history and symptoms alone they advised nephrectomy. She refused this and then kidney lavage was resorted to with apparent recovery in a comparatively short time. At present there are no positive tuberculous findings and culture of the urine from the left kidney shows the colon bacillus. So in spite of the t.b. history, etc., this woman has a chronic pyelitis due to the colon bacillus. The average case of tuberculosis of the kidney is treated in the beginning as cystitis and tuberculosis is not suspected or at least no attempt is made to exclude it, until the disease is advanced and probably bilateral. Let me repeat then—any cystitis in a young adult which does not clear up or improve under standard methods of treatment is probably tuberculous.

Renal tumors may be confusing, but in these cases hæmaturia is usually more pronounced and paroxysmal, pyuria and bladder symptoms not so frequent and constitutional symptoms usually absent. Hypernephromata are usually palpable. However, pyelography is the only accurate way to differentiate renal tumors. Pyelograms in the presence of tumor of the kidney show an incomplete filling of the pelvis and unfilled calyces are very suggestive and with the proper history and other findings present pathognomonic of tumor. Not infrequently early cases of tuberculous kidney are labeled essential hæmaturia on account of the fact that no definite findings are obtainable.

In my opinion we should hesitate to diagnose essential hæmaturia until a careful pyelogram has demonstrated a normal pelvis and proper steps have been taken to eliminate stone, tuberculosis, etc.

Renal and ureteral calculi usually should be easy to differentiate from tuberculosis on account of the fact that the x-ray in a great majority of cases will give a good shadow and with the x-ray ureteral catheter in place a stone in the ureter can be identified. We must remember however that phleboliths and calcified glands are very good imitators of stones, and we should be certain that any shadow seen is without doubt in the genitourinary tract. Doctor Bransford Lewis has admirably shown, that even with the ureteral catheter in place and presenting a shadow in the line of the ureter, and apparently in contact with the catheter, we may be mistaken. In this type of case if there is any clinical reason for questioning the diagnosis of stone, he replaces the flexible catheter with a metal ureteral dilator and makes another exposure of the field. If the shadow is a stone it will be seen within the dilator. If the shadow is a phlebolith it will be seen at a distance from the dilator, because the latter straightens out the ureter, making it take a different course, separating it from the phlebolith. In renal calculus there usually is a history of attacks of abdominal pain radiating to the groin which come on suddenly, are accompanied by hæmaturia and disappear suddenly.

So-called neurotic bladders are at times confusing but these cases give a typical neurotic history, occur usually in females. The attacks are intermittent and especially prone to occur during periods of excitement or worry. The urine is usually of low specific gravity and contains no pus or blood. The cystoscopic findings are negative usually, but occasionally there is a mild trigonitis.

I will not in this paper go into the differential diagnosis of abdominal conditions outside of the urinary tract from renal tuberculosis, but will simply state that many a jury of physicians has convicted the stomach, gallbladder or appendix when the real offender was the kidney.

The treatment of unilateral renal tuberculosis may be summed up in one word and that is nephrectomy which should be done just as soon as a positive diagnosis is made and the other kidney found to be free of tuberculosis, functioning properly and able to "carry on". The earlier nephrectomy is done the lower the

immediate and late mortality. In bilateral tuberculosis results from operative procedure are very disappointing and as a general rule surgery is not indicated. Some operators are removing the most diseased kidney in these cases, but the result usually is discouraging and very little improvement noted except possibly some amelioration of the bladder symptoms.

I will not be concerned in this paper with the exact technique of nephrectomy but wish only to mention a few of the factors which have a direct bearing on the mortality. Gas and oxygen anesthesia is to be preferred, especially where the original focus is in the lung, since inactive or latent pulmonary tuberculosis has a habit of being aroused by ether. The length of the operation does not usually exceed one hour in competent hands and many complete it in thirty-five minutes. Free exposure by means of an incision extending to the angle of the rib and down and forward as far as possible facilitates matters. Persistent sinuses may often be prevented by removal as far as possible of peri-renal fat.

Gentle manipulation of tissues may prevent rupture of abscesses, and thereby prevent extension to lymphatics.

Hemorrhage during operation is the most common accident and either results from slipping of ligatures or clamps or the presence of an aberrant vessel. Opening the peritoneum, or pleura and an injury to the bowel may occur but these accidents are very rarely serious. Post-operative complications are not common in cases which have had thorough pre-operative examination. Vomiting and distention occur, but are not as frequent as in cases requiring opening of the peritoneum. Anuria and uremia occur in a few cases, but the percentage is surprisingly small. The immediate mortality varies from 1.3 per cent in the Mayo Clinic to 3 per cent in the Massachusetts General Hospital. A fair average mortality among all operators would probably be about 5 or 6 per cent. In unilateral tuberculosis a positive cure is obtained in from 60 to 70 per cent of cases (Caulk). In bilateral cases a large percentage die within one year of operation. Bladder symptoms are practically always improved following nephrectomy, even in the most severe cases.

In conclusion allow me to emphasize the following points: 1. The bladder is the stomach of the genitourinary tract and bladder symptoms suggest disease especially tuberculosis, in the kidney, just as stomach symptoms are common in pulmonary tuberculosis.

2. Cystitis should not be treated indefinitely unless the etiology has been discovered. Valuable time may be lost.

3. The earlier the diagnosis is made the sooner nephrectomy can be done, and consequently the number of cures increased.

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Discussion

Dr. Donald Macrae, Jr., Council Bluffs—In regard to operative work in tuberculosis of the kidney, I am satisfied it is the only thing to do and it should be done early. But we sometimes have great difficulty in trying to determine whether there is active tuberculosis, or simply a colon infection or something else. Even with a guinea pig it is oftentimes a difficult matter to make the diagnosis. Therefore, we should take much time to study the case before doing radical work. I believe that many cases of tuberculosis of the kidney go on through life without any particular symptoms, the same as in cases of tuberculosis elsewhere. I have had a little personal experience along the line of objecting to certain methods of diagnosis where the symptoms are not marked. The patient was found to have pus in the urine, examination for life insurance revealing this. The man was not suffering the slightest symptoms, but on more thorough scientific findings it was determined that the condition was tuberculosis, probably of the kidney. The patient was advised to have a ureteral examination, but he objected because he had seen a number of cases of renal tuberculosis in which the catheter had been used that had a fatal result. He finally went to see Dr. John B. Murphy, who asked, "Why haven't you had the ureters catheterized?" "Because I was more afraid of that than of operation," the patient replied. Dr. Murphy replied: "You are right, nobody would catheterize my ureters unless symptoms demanded same." Since then this individual has tramped around the Mexican border, in France, etc., and is still here. So when we have active symptoms whereby we realize the man has some serious trouble because he is suffering, I believe then in radical treatment. But if he has no symptoms and is feeling fine, simply because you find evidences of tuberculosis does not warrant us in subjecting this man to nephrectomy with possibly bad results, as sinuses and invalidism which will make him miserable through the balance of his life. I do not want to be misconstrued. If the patient comes with these symptoms, then go ahead. If a man is normal, no temperature, the function of the kidneys adequate, I believe we should leave the case alone insofar as catheterization of the ureters is concerned. I have no doubt that in this audience are individuals with tubercular foci and who are apparently normal, who might easily develop a general miliary tuberculosis if the ureteral catheter were used.

Dr. W. A. Rohlf, Waverly—There is one important point which Dr. Schultz tried to emphasize, but which is so important I believe it will pay us to emphasize it again; and that is, the first intimation we have of tuberculosis of the kidney is the history of frequent urination. It is the one thing we want to remember, and if we rule out the four propositions the Doctor suggests that might cause the frequent urination, then it is reasonable to suppose that the condition is tuberculosis of the kidney. We can understand that pus from the kidney and bladder may come from conditions other than tuberculosis of the kidney. But when we have the symptom of frequent urination and can rule out stone and other causes of pus and irritation in the bladder, I think it is perfectly proper and right to follow out the suggestion that ureteral catheterization be done and you would be almost criminally negligent if you did not do so. One suggestion the essayist made in the way of helping diagnosis is the use of old tuberculin. This is I think dangerous advise because it is a proposition that might light up tuberculosis unless administered by one knowing just what the dose of old tuberculin should be. I am delighted with the paper, and from the experiences I have had since being interested in the matter of having the kidneys examined and the ureteral-catheter used I can look back and see where I have neglected many cases of tuberculosis of the kidney that do not get away from us now, and especially since we are taking into consideration the important fact that the first symptom, the prominent symptom, the one that we should not miss, is that of frequent urination without apparently any other cause for it.

Dr. Charles H. Magee, Burlington—I did not hear the whole of this paper, but the essayist seemed to refer to a good deal of anatomy and has led us into the light of a few interesting details on this subject. He has spoken of the dangers of the technic of a nephrectomy, and I wish to talk on this phase. He referred to the danger of getting into the pleural cavity. There is a little point that will give us some light on this ((illustrating): The kidney, if it lies high in the flank, may extend up to the second rib in this way, and it comes down like that. Now, there is a peculiar lay of the pleura, which comes down in this way (indicating), and it frequently runs below the lower rib, especially towards the spinal column. And I find this: In pulling on this kidney, if there is not room enough you are apt to pull off the renal vein or even pull a hole in the inferior vena cava. What shall we do then, to get plenty of room by going in behind? If you will take a pair of rib shears or bone forceps and cut this rib right off at this point (indicating), it is astonishing the amount of room you can get. You can then bring the kidney out without any difficulty at all. You make no traction on the kidney itself, you are not apt to have hemorrhage, and at the same time by cutting in front you keep out of the pleural cavity. Those are two or three little points of technic I wish to bring out. That portion of the paper which I heard I commend very highly.

Dr. Charles E. Ruth, Des Moines—I feel that this is a very excellent and timely paper, one that we needed. There are a few points I wish to take up with reference to the paper itself and one point in the discussion. As to symptoms: One of the first cases of tuberculosis of the kidney that came to my attention in the early years of my practice was a man about sixty-two years of age who died of hemorrhage from the kidney. On post-mortem I found that the kidney was entirely destroyed. He never had had a backache, he never had had any discomfort on urination or any symptoms whatsoever until the violent hemorrhage that opened up the vessels sufficiently to cause his death. A word with reference to the matter of hemorrhage as spoken of by the essayist in connection with operation, and I think possibly he had in mind also immediately following the operation. Probably one of the greatest dangers on that score and one that some of our leading surgeons feel the greatest concern about is the possibility that a ligature on the pedicle may slip. One point only with reference to this is that the nurse and the house staff always be advised of that as a possibility—not a great liability, but a possibility—that they may be prepared to meet it. How? By immediately clearing the wound and applying gauze pressure direct, well inward and backward. It can be applied in such a way that it will control the hemorrhage and save the patient's life, where possibly the loss of blood already is of considerable moment and time is important. A great deal of effort has been made to determine what should be the disposition of the ureter. The essayist states that sinuses sometimes are annoying. That means of course, the necessity of opening up if possible. The ureter should be freed down as near the bladder as possible, sectioned there and the end brought up into the lower angle of the wound. I do not believe that injecting it with carbolic acid or otherwise dealing with it will be of special moment. However, the proximal end of the distal portion should be brought out to the level of the skin.

Dr. A. G. Fleischman, Des Moines—Being interested in the domain of medicine in which renal tuberculosis plays an important part, I listened most attentively to the excellent paper presented. I am going to reiterate just a few more points because I feel they cannot be overemphasized. The most frequent presenting symptoms of renal tuberculosis are those of a cystitis, and a patient who has a cystitis that does not yield to vesical lavage and the ordinary urinary antiseptics should immediately be referred to some one qualified and competent to make a diagnosis. The more you procrastinate, the more you jeopardize the life of the patient. Therefore, these cases should always be referred to somebody competent and qualified in cystoscopy, in order that it may be determined which kidney is involved and the type of infection present. Gas-oxygen should always be the anesthesia of choice, and quite often you can supplement this with nerve block or local anesthesia,

as has been demonstrated frequently at Rochester. I do not think there are very many cases on record in which a medical cure of renal tuberculosis is definitely known. While I concur with Dr. Macrae that indiscriminate cystoscopy should not be employed, yet in every case showing pus in the urine, obtained under proper asepsis and catheterization, there should be applied some distinct method to determine accurately the source of the pus, irrespective of whether the disease is tuberculosis or not.

Doctor Schultz—I haven't very much to say in conclusion except that I would like to take issue with my friend, Doctor Macrae. It may be that in his experience he has seen a spontaneous recovery from t. b. kidney, but this experience is a rare exception and certainly not the rule. So far as I am concerned, I do not believe that any person with a definite t. b. kidney can survive long without surgical treatment. When an individual has developed renal tuberculosis, unless the affected kidney is removed the infection is bound to get into the other kidney. Doctor Macrae states that ureteral catheterization is attended by grave dangers. In my limited experience I have had no trouble from ureteral catheterization. The most serious thing I have experienced was in a case in which, following the taking of a pyelogram with sodium bromide solution, the patient developed a renal colic which in all probability was due to an edema of the renal pelvis. This colic, however, disappeared and the patient had no bad effects. I do not understand how anybody can believe that catheterizing the ureters is a major proposition, a very dangerous thing, when it is done time and time again without any trouble at all, done every four or five days in lavaging the pelvis of the kidney. Therefore I have to take absolute issue with Doctor Macrae on this point. Doctor Bowen was promulgating a little joke, but he and I will work out the actinic ray together and see what it will do for tuberculosis of the kidney. In regard to old tuberculin, I agree with Doctor Rohlf that the provocative injection of old tuberculin is rather dangerous, and it should be left in the hands of a laboratory man who knows how to use it and appreciates what might happen. And before it is given we should always be sure that there is no active focus, because we might make the conditions worse. I want to enlarge on one remark I made as to the bladder being the stomach of the genitourinary tract. You all know that practically every abdominal condition, acute or chronic, has stomach symptoms: Your chronic appendicitis has dyspepsia, your gall-bladder cases have attacks of vomiting, even pelvic cases may have stomach symptoms, and so it is with bladder symptoms. They in themselves do not mean anything in many cases. There is such a thing as acute cystitis, there is such a thing as chronic cystitis of course, but remember when you have a so-called cystitis that it may be due to urethritis, to prostatic trouble, bladder stone, diverticulum, pyelitis, or it may be due to t. b. kidney.

MALIGNANCY OF THE TONGUE*

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Directly responsible for poor end-results in cancer of the tongue, are insufficient or late operations. Rarely is the malignancy so virulent from the onset. And although this subject is very closely related in many respects to malignancy of other tissues in and about the mouth, this paper is purposely limited, for I believe that the time assigned is none too long for its separate study, and feel that we can not have impressed upon us, too often, the absolute necessity of early total eradication of these lesions, if we wish to avoid the great humiliation, the extreme gruesomeness, and the intense suffering that must necessarily follow any less severe measures.

The patient is aware of these lesions practically from the onset, but so often does not appreciate their significance. Therefore if the public be sufficiently educated it should seek advice early. Furthermore, owing to its anatomical location, and the ease with which the tongue is examined, its tumors should be diagnosed early. Yet, too often this is not the fact. Many receive temporizing tinkering treatment of local applications of irritants and what not, all of which would be much better left off, until total extirpation is too late. However, the fault does not always lie with us. For many others do not seek early advice, and all that do will not always submit to radical measures. The average delay on the part of the patient from the onset of symptoms to the first consultation with a physician or dentist, in one series was 1.9 months. And 39.8 per cent were definitely known to have received poor advice from the first consultant. The dentists being the worse offenders.¹⁴ But thanks to the propaganda of Bloodgood¹ who concludes that more lives can be saved by educating the public and the medical and dental professions on cancer and the prevention of cancer of the tongue, than by any improvement of surgical technic, the number of late diagnoses and delayed operations are growing less, and the picture of malignancy of the tongue is not as abhorring as it was a few years ago.

If we accept the theory, and I believe we all do, that originally all cancers are essentially local affections, then surely we must also admit that there is a period at or near the beginning when all cancers could be cured by complete extirpation. Then obviously enough, the ideal time for

operation on any cancer is before lymphatic involvement. Therefore not until every one of us advise the immediate complete removal of lesions of the tongue, will we be doing our full duty. Every fissure, ulcer, or tumor of the tongue should be treated as potentially malignant, completely removed, and if necessary diagnosed microscopically later. And even if still suspicious, we should disregard negative microscopical reports, for too much dependence on negative microscopical reports, assuring the absence of cancer is responsible for many of the late tragedies.

Zoological Distribution—A very interesting fact is the zoological distribution as known today. The occurrence in one horse, three aged cats, and one old dog. In each case the pathology was that of the squamous celled variety.¹²

Incidence—The first definite notice of cancer of the tongue was the case of Ralph Freeman who died in 1634 while Lord Mayor of London. The second case occurred in Germany, and was considered a miraculous punishment for cursing the clergy. From the middle of the seventeenth century onward cancer of the tongue became frequent, and English surgeons were busy devising operations for its cure.¹²

Frequency—About 8 or 8½ per cent of all cancers are of the tongue.¹⁰ Andrews found that 20 8/10 per cent of 469 cases of epithelioma were of the tongue.¹⁰ It is interesting to note that in another series of 281 tongue lesions, 207 were cancerous while 74 were non-cancerous. In frequency Jessett places it second only, to cancer of the cervix, while Jacobsen gives it third place.¹³ It occurs a great deal more frequent in men than in women. The ratio being about nine to one. The average duration of life in untreated cases is less than two years. The patients are usually between the ages of forty-five and sixty years.

Etiology—Possibly lesions of the trophic nerves governing gastrointestinal metabolism may play some part in the etiology.⁵ For when these nerves are exhausted by mental or emotional strain they give rise to the secretion of abnormal gastrointestinal juices, which are unable to digest certain starchy foods such as peas, beans and potatoes, and absorption from resultant fermentation results in peptic ulcers of the tongue. Smokers sore tongue is usually associated with mild gastric disturbances of this sort.

Mechanical irritation, such as sharp roughened teeth, decayed infected roots, ill-fitting plates or bridges, pyorrhea, all of which constantly irritate the tongue with resultant white patches or ulcers, which are very prone to become cancerous. These

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are almost a universal cause. In one series¹³ all of the women (fourteen in all) had a very definite history of dental irritation, except one, who had a positive Wassermann and a leucoplakia patch.

Leucoplakia is a very good example of the benign lesion becoming malignant. Often this lesion may exist for years before it breaks down into carcinomatous tissue.

No doubt that excessive use of tobacco is an important etiological factor. Particularly smoking and the use of snuff. Of the 134 male cases in one series,¹³ nearly all were excessive smokers. Eighty-four and five-tenths per cent giving a history of its use. In this connection it is interesting to note that Power¹² in the Medical Press of London predicts an increase in about 1950, believing that it will affect the women as well as the men, for syphilis is common and every one smokes. Furthermore, here is the final blow, Ochsner¹¹ in Boston last October said, "Above all things the use of tobacco in every form including snuff must be prohibited permanently." However it is only fair to say that Von Winniwarther has shown that the Oriental women who smoke are not more subject to it than the non-smoking women of the Occident.

Syphilis—The presence or absence of a history of syphilis or a positive Wassermann is of subordinate importance and can be misleading. For the association of cancer and syphilis is frequent. Too often a syphilitic lesion is treated as such when a coexisting cancer is overlooked, and thereby most precious time lost. Syphilis in association with cancer of the tongue is approximately three times more common than association with cancer in other locations about the mouth.⁴ One hundred and forty-eight cases or 35.1 per cent of Quick's series gave a positive Wassermann reaction and he believes that the incidence of syphilis is greater than this.¹³ Judd is inclined to believe that it is coincident with cancer of the tongue in even a greater per cent of cases at the Mayo Clinic.⁸

Repeated treatment for thrush has preceded cancer.

Personal habits of mouth cleanliness, and unclean food are factors to be reckoned with. In fact any infection about the mouth and tonsils seem to encourage cancer invasion.

Ulcers, small fissures, fibromata and papillomata, although benign play no small part in the etiology, and no doubt when removed early, prevent many malignancies.

Symptoms—A carefully taken history in a great majority of these cases will reveal that these patients have known of definite local le-

sions, for months or possibly years. However, in some rare instances infiltration is so rapid that the condition is hopeless or inoperable within a few months.

Pain before the onset of any other symptom was not recorded in one series.² However later, it may be sharp, aching or gnawing in character, may radiate to surrounding regions, as the ear or vertex. Salivation may be present. The patient may complain of a small tumor or ulceration.

Pathology—The great majority of the malignancies are epithelioma of the squamous celled type. However Basal cell and glandular do occur. Sarcoma are so very rare that they are almost a surgical curiosity.

Diagnosis—First, a careful history should be taken. The examination is best made in the dark room using the pencil flash light. After the patient has fully relaxed, palpate the tongue between finger and thumb. When ulceration has occurred it is usually surrounded by a zone of induration; but if degeneration has taken place this induration may be slight. In most instances cancer of the tongue must be diagnosed microscopically. It must be differentiated from syphilitic ulcers and growths; tuberculous ulcers; actinomycosis; sarcoma; benign warts and tumors; papilloma, and benign ulcers, fissures and cysts.

Primary and secondary syphilitic ulcers may be differentiated by the dark field illumination for the spirochetæ. In tertiary syphilis it may be impossible to differentiate. A smear or tissue should show the ray fungus. Thrush and blastomycosis must be excluded. Tuberculous ulcers usually occur in children or young adults, not common after the age of forty, and they do not tend to spread. Furthermore evidence of tuberculosis elsewhere can usually be found. Although in one series of tuberculous ulcers of the tongue one case was found where evidence of tuberculosis could not be found elsewhere.³ The Koch, Calmette or Von Pirquet tests may aid some. As sarcoma should receive the same radical treatment as cancer, it is not so essential to differentiate between them. Treated fibromata may appear very much like a cancerous ulcer. If a piece of tissue is incised for diagnosis, it should be taken from the margin of the ulcer, not the base, and by the surgeon in charge who is ready to do a radical operation immediately if necessary. If the ulcer has been treated, do not accept the pathologist's report as final, should he say inflammatory tissue.

The lymphatic invasion from cancer of the tongue is somewhat different from that of other common cancerous regions, namely, the uterus,

stomach or breast, in that it is limited to the lymphatics of the neck, very seldom extending below the clavicle. Crile⁶ in a study of 4500 necropsies of death from cancer of the head and neck, has pointed out that only 1 per cent showed secondary foci in distant organs and tissues. Fur-

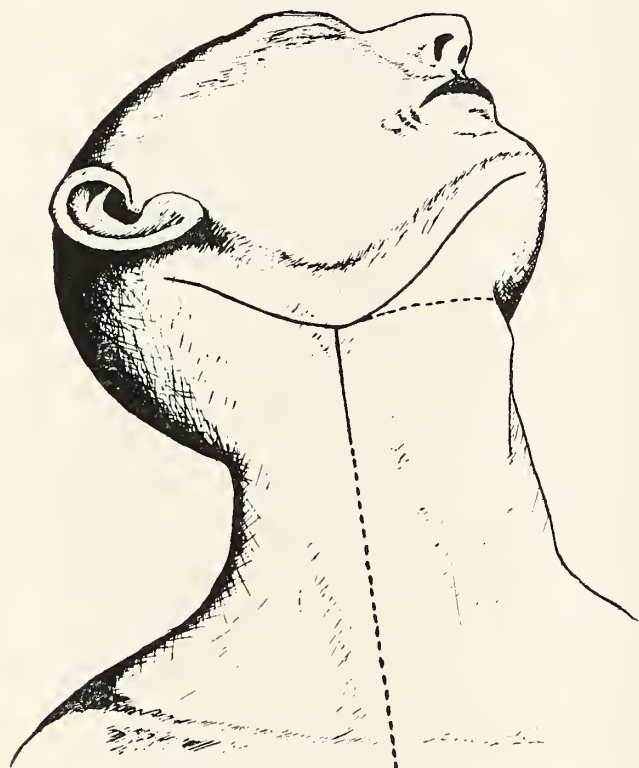


FIGURE 1.—INCISIONS—Solid line which may be extended around the neck, is for the exposure of the submental, submaxillary, upper deep cervical—including the lingual—lymph glands. Dotted line encircling the neck at the lower border of the solid line, connecting with the posterior part of the solid line, gives exposure for the complete resection of the tongue, floor of the mouth, and tissues involved in that region. Solid line connecting with the vertical dotted line furnishes ample exposure for block dissection of the neck.

thermore the lymphatic area involved is accessible, and under direct observation of the surgeon. Certainly this can not be said of the secondary invasion from the other regions mentioned above, where lymph glands in inaccessible places are soon involved and their complete resection thereby made impossible.

A certain per cent of cases, especially elderly patients, do not develop metastasis in the neck at all, or not until late in the disease.¹³ However, in the majority of instances, the lymphatic invasion takes place early and the growth is rapid. No doubt this rapid growth is due to the rich vascular and lymphatic supply, together perhaps, with the constant motion of the tongue. In late stages when infection has taken place the permeation is very rapid.

About 70 per cent of reoccurrences are in the lymph nodes, not in the scar of operation (von Bergmann, Kuetter). I believe, that the time

limit for recurrence—as proof of cure—should be five years rather than three.

Two groups of lymphatics drain the tongue, the submucous and the muscular. The former arise from an exceedingly rich net work which extends throughout the entire surface of the tongue. The lymphatics posterior to the circumvallate papillæ seem to be more independent. The muscular vessels are not so well developed and many unite with the submucous net work. There are four main groups of the submucous vessels, according to their location, the apical, lateral, basal and median. The submental and inferior deep cervical lymph nodes receive vessels from the tip. The submaxillary nodes receive vessels from the marginal and central regions. The superior deep cervical nodes receive vessels from the marginal, central, and basal regions. A little above the level of the bifurcation of the common carotid is a node of considerable size, which on account of its relation to these lymphatic vessels from the tongue is called the principal node of the tongue. Figure 2.

Any or all of these glands may be invaded from cancer of the tongue, even early. And in event

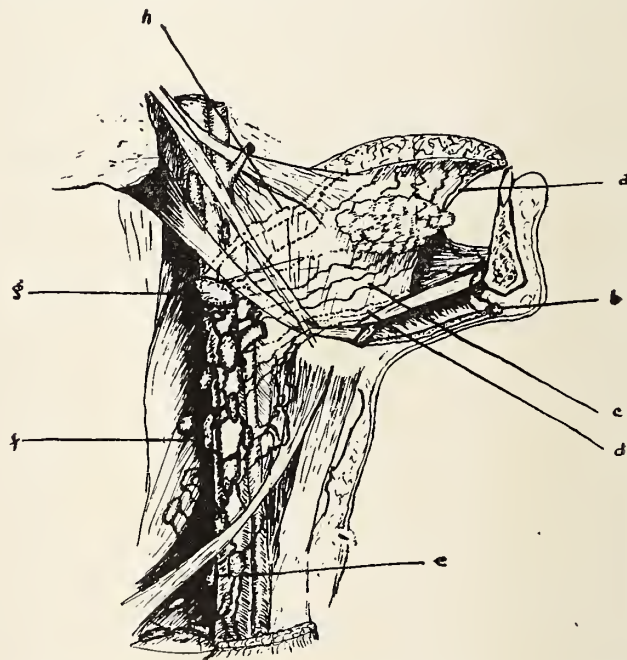


FIGURE 2.—Lymphatics of the tongue (Poirier)—(a) Apical vessels; (b) Submental node; (c) Lateral vessels; (d) Apical vessels; (e) Inferior deep cervical nodes; (f) Superior deep cervical nodes; (g) Principal node of the tongue; (h) Basal vessels.

of all being involved a block dissection of the neck is necessary.

Developmentally the tongue is a fused organ. Therefore metastasis from it is not as regular in its distribution as from organs or regions that are not fused. So lymph nodes on either side of the neck may be involved, even quite early, regardless of the location of the cancer. Particularly

is this true when the lymph vessels are blocked, or when the cancerous growth on the lateral border of the tongue has extended over the dorsum; or when detached cancerous emboli pass into the central lymph vessels which run deeply into the substance of the tongue between the geniohyoglossus muscle. These vessels drain into lymph nodes on both sides of the neck. In one series⁷ every patient who refused the bilateral operation developed a lymphatic involvement on the opposite side.

It is probable that the lymphatic invasion is an embolic process. Therefore while the lymphatic plexuses and smaller vessels within the tongue are permeated, the large vessels extending from the tongue to the nodes are not, except possibly in far advanced cases. Consequently the removal of these larger vessels is not only unnecessary but impracticable, because of their size and complicated course. Lymph nodes may occupy very deep recesses in the substance of the submaxillary gland, and yet be outside of its capsule. Therefore, although in the early stages the salivary glands are not usually involved, their re-



FIGURE 3—Dissection to show the vascular sheath surrounding the internal jugular vein and the carotid arteries. (a) Omo-hyoid muscle cut; (b) Sterno-thyroid muscle cut; (c) Anterior jugular vein; (d) External jugular vein; (e) Lateral extension of prevertebral fascia; (f) Sterno-cleido-mastoid muscle cut.

moval is quite generally necessary in order to eradicate all the lymph nodes. As a rule the subparotid nodes are not invaded until late. Bloodgood says he has never seen an operative cure if these glands are involved. The most favorable

location, then, for cancer of the tongue is on the tip or dorsum. The least favorable is on the base. The majority however are found on the lateral border.

Treatment—As an advocate of radium, Quick is perhaps the best exponent. In the primary le-



FIGURE 4—Dissection showing vascular sheath cut. Note the ease with which the internal jugular vein can be dissected out. All of its branches being superficial to the arteries. One must keep in mind that the vagus nerve is in the same sheath, posteriorly placed.

sions he feels that surgery has no place at all. That this part of the disease belongs entirely to the radium field. That the cervical lymphatics unless definitely involved should not be interfered with surgically, as they represent one of nature's barriers, and should be treated by external radiation of filtered radium or x-ray. He produces some very forceful argument in the detailed report of 148 cases treated at Memorial Hospital.¹³

On the other hand, Muller⁹ thinks that too many patients already are clamoring for radium, and the patient and the family physician should understand that the suffering and often the mutilation from the use of radium and electrocoagulation is more severe and more extensive than that which follows operation. Again, Simmons¹⁴ is disappointed in the results of twenty-one primary cases treated with radium, and feels that the same results could have been obtained in a shorter time with the cautery, and with less pain and discomfort.

As to the great value of x-ray and radium as adjuvants in the treatment of cancer of the

tongue, there is no question. And as the technic for treating with radium improves let us hope that even more may be claimed for it. But until that time I believe that most surgeons are against the use of radium alone, to the exclusion of surgery, and feel that a combination of the two is far better.

The procedure of choice is the two stage operation followed by x-ray and radium radiation. If the cervical lymph nodes are involved the first stage is a block dissection on the primary side, with the removal of the submaxillary and the superior deep cervical on the other. If the cervical glands are not involved, the first stage consists of a resection of the submental, submaxillary and the superior deep cervical lymph nodes on the primary side. Then in about ten days excise, preferably, by cautery, the primary lesion, being sure to extend out $1\frac{1}{2}$ to 2 centimeters into normal tongue tissue.

A recent report from the Mayo Clinic⁸ gives a high per cent of cures with a low operative mortality. Judd believes that one of the factors going to make such a favorable report is the two stage operation.

In far advanced cases the superhyoid approach to the tongue is the better procedure. By this approach the whole tongue, floor of mouth, salivary glands, soft palate, pillars of the fauces and tonsils can be removed en mass.

In very late cases radium needles used about one-half centimeter apart about the growth, with x-ray properly applied to both sides of the neck may arrest the process sufficiently, so that when the patient recovers somewhat, a complete resection of involved tissues may be made.

Anesthesia—Inasmuch as the majority of these cases occur in older patients, who have more or less cardiovascular, and renal disturbance, the anesthetic becomes a considerable problem in itself. A good rule, is to give $1\frac{1}{2}$ hours before the anesthesia is begun, morphia grain one-quarter with atropin grain $1/150$, and again one-half hour preceding, morphia one-sixth gr. and atropin gr. $1/200$. Elevating the head of the table, producing anemia of the brain, lessens the amount of anesthesia necessary, and aids in the controlling of hemorrhage. In very radical operations it is necessary to pack the pharynx to prevent inhalations of blood and mucous, after having inserted inhalation tubes through the nares, and doing a preliminary tracheotomy. For the same reason, following the operation, nurses should be constantly in charge, keeping the wound free from blood and mucous.

For lack of time I have not gone into the history of the development of the operative technic.

It is a very fascinating story, I assure you. Sufficient here to say that it has been developing for quite a long time. Hippocrates recognized ulcerating cancer of the tongue, and spoke of the value of the cautery. No one name stands out preeminently. A great number have contributed. And among those who are associated with the greatest advancement of surgery on the tongue should be mentioned, Roux, Sedillot, von Langenbeck, Billroth, Regnoli, Whitehead and Butlin.

Nor have I attempted to show any operative technic, for before an audience such as this it is obviously unnecessary. I only wish to emphasize certain points. Figure 1 shows the incisions which I believe furnish the best exposures for the different stages of operations for cancer of the tongue. The solid line, which may be extended around the neck, is for the exposure of the submental, submaxillary, superior deep cervical—including the lingual—lymph nodes. The dotted line encircling the neck at the lower border of the hyoid bone, connecting with the posterior part of the solid line, gives a good exposure for the complete resection of the tongue, floor of the mouth, and tissues involved in that region. While the solid line connecting with the vertical dotted line furnishes ample exposure for block dissection of the neck.

Figure 2 emphasizes how closely the lymphatic system is associated with the venous system. In the event of cancerous invasion, both must be dissected out together. Beginning at the clavicle, this is fairly simple matter. We know that the vascular sheath surrounds the internal jugular vein and the carotid arteries, as is shown in figure 3. And by cutting into the vascular sheath the internal jugular vein comes directly into view, as it is superficial and somewhat posterior to the arteries, figure 4. Furthermore all of its branches are superficial to the arteries, and can be ligated easily. Of course one must keep in mind that just posteriorly to these vessels in the same sheath is the vagus nerve; but with a reasonable amount of care it need not be disturbed, and of course must not be. Control of hemorrhage is simple. It is an easy matter to ligate the lingual, or external carotid arteries if necessary. Or, by gentle compression on the common carotid one has control of hemorrhage throughout the operation.

Case Report

Mr. G. M. V.—Farmer, age forty-nine, consulted me January 24, 1914, concerning a small lump in his tongue.

Family history negative. No tuberculosis nor cancer in the family. Past medical history negative. Patient has never been ill, except for the diseases of

childhood. No history of venereal infection. Personal habits good. Uses coffee; but no alcohol; smokes considerable; bowels regular and appetite good; teeth in fair condition except a bad root on left side, lower jaw. Present illness, past month has noticed a small lump in left side of tongue; slightly tender; no pain or referred pain; some salivation.

Physical examination. A very robust man age about fifty; pulse 70, regular and full. Temperature 98.4; blood-pressure 128 and 92. Nervous system negative; general physical examination negative. No palpable glands; blood, reds 4,900,000; whites 6,000; Hgb. 90 Talquist; Wassermann negative; urine negative.

Special examination, tongue straight; no tremors; very clean, slightly reddened. Some roughening of epithelium on left side opposite the root of tooth, and the small tumor, which was at the junction of the anterior and middle thirds. Tumor about the size of a pea, and in the left margin. Quite firm; tender on examination between the finger and thumb. Teeth have considerable calcarious deposits; bad infected root of second bicuspid, left side, lower.

Diagnosis: Fibromata. Recommended immediate excision, and extraction of the infected tooth root.

On the following day under general anesthesia, the tumor was excised and the tooth root extracted. Care was taken to clear the margin of the tumor by about 1½ centimeters of normal tongue tissue. This was proven by the pathologists report. However, the pathologist stated that some of the cells at the center of the tumor showed mitotic figures, and a tendency toward breaking down of the basement membrane. At the outer margin of the tumor was a great deal of lymphoid infiltration.

Pathologist's diagnosis: Squamous cell epithelioma.

Comments. A benign appearing tumor, of short duration, being malignant; patient sought advice early; accepted advice for immediate operation, thereby saving himself considerable disturbance in the future. A communication from him dated March 23, 1923, states that he is enjoying the best of health; and has had no swelling of glands about the head or neck; nor any disturbance in the tongue.

SUMMARY

1. The public must be better educated in regard to precancerous and cancerous lesions, and as to the importance of early consultations.
2. It is up to the medical and dental professions to direct this educational campaign, and to advise early operations.
3. Any fissure, ulcer, cyst or tumor of the tongue should not be treated locally; but excised at once.
4. The two stage operation, followed by radium and x-ray, if deemed necessary, is the procedure of choice in the majority of cases.
5. The frequent coincidence of syphilis with cancer of the tongue is striking.
6. Radium and x-ray may arrest, apparently

hopeless cases, sufficiently to permit of radical surgical interference.

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DIFFERENTIATION BETWEEN THE QUICK AND THE DEAD*

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Daily the physician is called to see patients prostrated by accident, by hemorrhage, by wasting disease. Daily in the hospital wards are encountered patients whose shrunk, dejected faces, depressed circulation, failing respiration, cold clammy skin, extreme muscular and mental weakness betray the fact that unless some immediate method of restoration is applied, the prostration will progress to dissolution.

As the physician views these prostrated patients he is unable to visualize the mechanism that is failing. He has no premise on which to base a conception of the true cause of the picture before him. He does know that whatever the original or the continuing cause of the prostration, certain fundamental measures are required to accomplish restoration—rest and sleep, water, relief from pain, restoration of the per-minute circulation of blood through the master organs, and the return of the depressed or elevated temperature to the normal level. But in spite of his knowledge of methods of restoration, the physician cannot identify the fundamental mechanism which has been restored.

The processes of exhaustion may be so overwhelming as to overcome every effort to restore the patient. Thus, a patient with an acute hemorrhage may die shortly after his admission to the hospital; the hemorrhage does not explain the mechanism of death, it explains the cause of death. A patient may enter the hospital with acute hyperthyroidism and die; the cause of death is hyperthyroidism, but that fact does not explain the mechanism of death. Daily we see patients die from every kind of traumatism and

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from every type of disease, but whether the individual who dies is young or old; whether death is sudden and unexpected or is the result of protracted disease, in no instance does the cause of death give any clue to the mechanism of death.

What is the true pathology—what is the physiology of death? What is the physiology of restoration? The pathologist can describe accurately the organic changes which are associated with death, but he can tell us nothing about the mechanism whose failure has been the immediate cause of death. The physiologist can describe the functional changes which are present in exhaustion and the progressive functional variations during the processes of restoration, but he cannot describe the processes themselves.

An analysis of the causes of this limitation in the knowledge of the pathologist and the physiologist makes it appear that while they have apparently reduced the structure of the organism to its lowest possible factors, the unit cells, the progress of their investigations has been checked by the assumption that the ultimate basis of the energy shown by each living cell is unknown and perforce must remain unknown. It would appear, therefore, that our understanding of the fundamental difference between the quick and the dead upon which any final interpretation of the operation of the organism must be based has been hopelessly checked by our failure to attack efficiently the problems presented by the transformations of energy—the life cycle—within the unit cells themselves.

In an attempt to solve this fundamental problem—to discover the method of operation of the unit cells of the organism, the fundamental basis for its vital activities, researches have been in progress in my laboratory for many years. The problem has been attacked successively by physiological, histological, physico-chemical, and biophysical methods. The findings have been constantly checked by clinical observations and each group of studies has been correlated with those which have preceded it.

As a result of these investigations, especially with the crowning evidence presented by the application of the exact methods of the physicist, we have been led to the belief that the unit cells of the organism are electro-chemical mechanisms; and that therefore the organism as a whole is an electro-chemical mechanism. The life and function of an electro-chemical mechanism depends upon the maintenance of a difference of potential between a part of highest potential and a part of lowest potential, with parts of varying potentials within the circuit, whereby selective activities may be effected. We have accumulated

evidence which tends to support the conception that in the animal organism the brain is the part of highest potential—the positive pole—and the liver the part of lowest potential—the negative pole. If this conception be sound then it would follow that the mechanism of life and death could be interpreted in electro-chemical terms—variations in vitality being in direct relation to variations in potential.

In accordance with this conception, therefore, exhaustion is the result of a diminution of the difference of potential between the poles of the organism, this diminution being due primarily to a decrease in the potential in the brain, which in turn results from a decreased difference in the potential in its constituent cells. This conception explains the identity of the phenomena of exhaustion and the progressive stages of exhaustion to 'shock'. When the difference in potential reaches zero, the organism is dead.

In accordance with this conception we have adopted certain fundamental principles as our guide in the protection and restoration of our patients. The maintenance of the integrity of electric cells of the type of those which constitute the animal organism require the following elements:

1. Abundant water.
2. Abundant oxygen.
3. Maintenance within a normal range of the permeability of semi-permeable membranes.
4. Maintenance of an optimum temperature.
5. Avoidance of prolonged continuous activity.
6. Rhythmic periods of comparative negativity for recharging.

In the human electro-chemical mechanism these requisites may be supplied by the following measures:

1. Abundant water is administered by mouth, by rectum, by hypodermoclysis.
2. Oxygenation is promoted by increasing the amount of blood in circulation by means of transfusion and by promoting the heart action by means of courses of digitalis.
3. The permeability of cell membranes is maintained within the normal range by the avoidance of lipid-solvent anesthetics—ether and chloroform; by the use of nitrous oxid-oxygen anesthesia only to the stage of analgesia, placing the main reliance upon local anesthesia; by the infliction of minimum trauma; by the utmost possible avoidance of every physical and emotional disturbing factor.
4. An optimum temperature is maintained by the selective internal and external use of heating or cooling agents.
5. Prolonged continuous activity is avoided and a state of negativity is induced by environmental control and by narcotics.

As concrete illustrations of the practical application of these principles in the human electrochemical mechanism, I wish to discuss the management of certain acute abdominal crises such as those suggested by our opening paragraph—patients who on their admission to the hospital have a thready pulse and an abdomen either distended and rigid or filled with fluid—pus or blood.

Contrary to the usual order of consideration, in such a case it is imperative first to be sure what not to do. Such a patient should not be operated upon immediately after admission to the hospital; he should not be taken from the admitting room to the operating room; he should not be given a general anesthetic; he should not be taken to the x-ray laboratory; he should not be subjected to physical examinations which might lead to further exhaustion.

All of these procedures may properly be employed in the case of a patient seen before the crisis has developed—in whom there still remains a fair margin of safety; but for the patient with a thready pulse, a rigid distended abdomen and cold moist extremities they are imperatively contraindicated.

Such a patient is sent at once to his bed; he is immediately given a quarter grain of morphin with 1/50 of a grain of atropin; he is immediately given large quantities of water—2000-4000 c.c. by hypodermoclysis through two needles in the pectoral muscles; his blood is grouped immediately and he is given a blood transfusion without being moved from his bed; he is immediately placed in a modified Fowler's position; large hot abdominal packs are applied immediately; and if he is vomiting he is immediately given a gastric lavage.

If the patient is already in the early stage of dissolution, his condition will not be improved by these emergency measures. The pulse will become continuously fainter; the anxious psychic state will pass on to delirium, the delirium to unconsciousness, the unconsciousness to death.

On the other hand, if the process of dissolution is not initiated and the pulse and general condition of the patient shows improvement within the first hour, then a decompressing operation is performed in the patient's room without moving him from his bed.

Within this crucial first hour, certain observations which may be made are of special import. A subnormal rectal temperature or a leucopenia is ominous. In a case of hemorrhage, leucocytosis is of high importance as it appears earlier than a lowering of the blood count or of the hemoglobin estimation.

It is to be borne in mind that in these cases, of course, we have no previous estimation as a guide. The blood picture, the pulse, and auscultation of the abdomen together with the history and the general picture presented by the patient are our only guides.

The limited objective of this decompression operation depends upon the primary cause of the crisis, the imperative caution in each case being to quit the moment that objective has been achieved. Thus in a case of gangrenous appendicitis make no attempt to search for the appendix but establish drainage, and quit. In the case of a gangrenous gall-bladder, make an incision over the center of the most tender and most rigid area, disturbing the new adhesions as little as possible, open the gall-bladder, provide the simplest drainage, and quit. In a case of acute pancreatitis, establish drainage and quit. In the case of a perforating gastric or duodenal ulcer, suture the perforation, establish a suprapubic drain if there is much fluid, and quit—without performing a gastroenterostomy. In the case of an extra-uterine pregnancy, evacuate the blood, excise the tube and quit. In the case of a ruptured spleen, if it is at all safe to do so, excise the spleen—otherwise use a mattress suture to prevent a recurrence of the hemorrhage. At any cost, a visceral perforation must either be closed or brought into the wound. In a case of grave intestinal obstruction, in accordance with the plan of Summers, decompress the small intestine at a high point to minimize absorption of the toxins, and quit.

Pursuant to the decompressing operation with its limited objective, the management of the patient is in accordance with the general plan briefly outlined above, viz:

1. Modified Fowler's position.
2. Hot packs over the entire abdomen extending well down over the sides.
3. From 2000 to 4000 c.c. or even more of water—Bartlett's solution—by hypodermoclysis each twenty-four hours.
4. The transfusion of blood, repeated if required.
5. Excepting in gall-bladder lesions, and unless there is cyanosis, morphin in repeated doses until the respiratory rate is reduced to from 10 to 14 per minute.
6. Maintenance of utmost possible degree of negativity.

To these positive points the following cautions should be added:

Avoid every needless disturbance of the patient.

Avoid any attempt to move the bowels in the acute stage of peritonitis. Use small enemata,

not cathartics, after the acute stage has passed.

Avoid the continuance of morphin beyond the critical stage—but do not hesitate to give enough morphin until the critical stage has passed.

The importance of the time factor in these acute crises should be emphasized. It was noted in our war experience that with most abdominal wounds contamination progressed to infection in ten hours; that the recovery rate of all operations performed within ten hours was practically uniform; but that the mortality rate of operations performed more than ten hours after the wound was received rose in geometric progression.

In cases of perforated gastric or duodenal ulcer, in particular, the most important single factor is the time factor.

In cases of ruptured appendix or ruptured gall-bladder the time factor is of even more importance since in these cases pus is discharged into the peritoneal cavity.

Certain special points regarding the further control of certain specific emergencies may be added:

In a case of internal hemorrhage as from a gastric or duodenal ulcer its immediate arrest may be accomplished by utilizing the following principle in biologic adaptation:

As a defense against death from hemorrhage a mechanism has been evolved for increasing the coagulation of the blood as the death point approaches. It is logical, therefore, to utilize the fainting point clinically as an indication that the blood-pressure is sufficiently low for the hemorrhage to be arrested by coagulation. The patient being kept under continuous observation and control, an attempt is made to bring him to the fainting point by having him propped up nearly upright in bed. If the upright position does not produce blanching, a thready pulse and a moist forehead, then the blood may be sequestered in the extremities by adjusting a tourniquet around the thigh just tightly enough to block the venous but not the arterial flow. In this way enough blood may be tentatively removed from the general circulation to reduce the blood-pressure until the fainting point is reached. The length of time this point should be maintained is empiric, but a brief period is sufficient to assure the formation of a secure clot at the bleeding point. Not only are the open vessels plugged but the patient has left in his body plenty of blood to flood the blanched brain when the bandages are released and the posture altered.

In a case of deep jaundice from biliary ob-

struction, if the gall-bladder contains bile, its decompression should be accomplished slowly by an intermittent unclamping of the rubber drain. As noted above morphin is contraindicated in jaundice for the reason that the function of the liver is depressed by narcotics, especially morphin.

In contrast with the limited objective attained by the primary treatment of these grave cases, if the patient is presented at a sufficiently early stage, he is taken at once to the operating room and a definitive operation for complete cure is performed.

In the presence of the slightest uncertainty as to the outcome, however, the patient should be given the advantage of the protective measures we have described, thus increasing his reserves in advance of the emergency.

An analysis of these methods of restoration will show that in each, aside from the operation indicated by the specific cause of the condition, the fundamental requirements for the maintenance of the difference of potential as outlined above have been the basis for our treatment.

The theory upon which the plan of management we have outlined is based was suggested by histological physio-chemical and bio-chemical researches; our conviction as to the value of these procedures is based upon the experience of my associates and myself in 16,652 abdominal operations. During the past three and one-half years, the surgical mortality of 14,949 operations at Lakeside Hospital has been 1.8 per cent; of all operations performed during 1922 the mortality was 1.6 per cent. A separate statistical study of operations for acute abdominal conditions, acute appendicitis, gastroenterostomy and resection of the stomach, cholecystectomy and cholecystostomy, colostomy and resection of the large intestine, shows a mortality of 3.8 per cent as compared with a former mortality of from 6 to 9 per cent. In the above group are included 141 operations for cancer of the large intestine including fifty-one resections with a mortality of 2.8 per cent. The former mortality in this group was 5.3 per cent.

The diminution in the post-operative morbidity which is even more striking than the diminution in the post-operative mortality cannot be stated in figures. It should be added that whereas formerly it was necessary to select patients according to their probable ability to withstand the operation, we now accept every patient in whom operation is anatomically possible unless the process of dissolution is actually initiated.

THE MANAGEMENT OF MATERNITY*

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While the management of maternity dates from the generation preceding, for purposes of discussion, it must be limited to a more definite period. The obvious delineation is that period which elapses between the date of conception and the end of the puerperium. During this time certain body changes of structure and function are normal and certain pathological aberrations are peculiar to the period.

If these few assumptions may be granted, then the safe conduct of a patient through maternity depends upon two things: first, the anatomical capacities and the functional powers inherent to the body itself; and second, the accuracy with which the manager of the patient observes, interprets, co-relates, and treats aberrations peculiar to the period or arising during the time.

The management of maternity is the practice of medicine inasmuch as the practitioner of medicine does just those things for the entire span of life: he observes and interprets and co-relates and treats and, in each instance, the objects of his attention are human anatomy, physiology and pathology.

To demonstrate that proposition before this body would seem gratuitous were it not for the fact that we have evidence of much confusion on that point among members of the medical profession. I believe that members of the profession have never advocated the training of midwives with the idea that the conduct of labor by a partially trained group might be a scientific advance but it is true that they have claimed it to be an economic necessity. I believe none have advocated the training of nurses as community instructors in the hygiene of pregnancy with the idea that their miscellaneous public teachings might have sound value without being tempered by training in the art of observing and interpreting scientific facts and functional aberrations; but it is true that members of the profession have lent aid to such programs when sponsored by reformers deficient in the ability to appreciate the character of the questions involved or the enormity of teaching without understanding. Without training in interpretation and co-relation such teachings must always be dogma while, with that training, an excellent class of practitioners would have been created who would know that the community teaching of the hygiene of pregnancy is the teaching of general hygiene, and beyond that, all teaching and all management must be indi-

vidual. It is so for the reason that practitioners outside the laboratory never deal with pathology but with emotions plus pathology.

The dogmatic teaching of fact pre-supposes absolute knowledge. The partially trained may impart it to the untrained as such but the profession whose tenets we strive to uphold, knows that in matters of practice we are not possessed of absolute knowledge, but only of relative knowledge.

These two classes as trained today have a limited field of usefulness. The teachings of modern medicine can grant to them unqualified approval only when they appear in the role of assistants.

The emotional complex of the patient in maternity makes additional difficulties of interpretation which preclude the advisability of assistants working without some degree of personal contact between the patient and the supervisor, trained in evaluation as well as in anatomy, physiology and pathology. Some reports may be satisfactorily made by mail or by telephone but, in every instance, there are times when personal observation and individual responsibility are necessary.

It is not my purpose at this time to discuss matters of legislation but, I do wish to invite the attention of the medical profession as here represented, to the fact that all the scientific knowledge in the world can have no value to the woman in maternity unless attention be given to the art of holding the individual patient still while we administer the dictum of science.

Maternity care in the United States will continue to be accomplished in the home and the small hospital and will continue to be considered by the patient and her family to be an individual concern and a private, family matter; this, in spite of the radical proposal that instruction be issued to these women as a class and that the teaching emanate from bureaucratic Washington. The response to instruction will continue to be in proportion with the receptivity of the audience.

Maternity carries no public menace and therefore cannot be properly made a subject for police regulations which mark the management of contagious diseases. Without that factor of danger to a neighbor, a government which is to live cannot dictate family opinion or procedure in the home.

The responsibility of the medical profession in this matter is great, for the members of the profession are alone in the understanding that, in matters of practice, none of our knowledge is absolute. We know that we are possessed of relative knowledge only; we know that what we teach as relative, what we advise as the best possible in

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view of our limited information, is repeated as dogma. We know that group-thinkers, the so-called saviours of the proletariat, teach medical wisdom which is untrue and believe it to be fact because they have it from the pen of perhaps the greatest authority in the land. We have not yet been forced to learn the magnitude of the harm accomplished but the progression is such that today we stand guilty of willful neglect in not having gone to our public with a statement presented in adequate fashion.

Our learning is progressive. We may teach for a time that puerperal sepsis is of extraneous origin, dependent upon faulty technique in the conduct of labor; and when we have spread that gospel thoroughly the old theory of hematogenous infection may rise like Banquo's ghost to confront us, never disproven and probably true. Our limited knowledge of physiologic processes may give us pause and so influence our practices that we endeavor to give due care to both possibilities. The error of having taught one as absolute would be apparent. To weigh and to consider and to act upon such problems of practical application is not the province of government nor of group workers, whose limited training has led them to accept one teaching or the other. To argue such a question in the halls of Congress or before a lay jury would be imbecilic endeavor and yet each patient is entitled to the best judgment of an informed mind.

In view of which, the plea of Glenn Frank that a scientific profession should learn to "think of health in terms of a nation" becomes a paradox and more. To think of health in terms of a nation is to think of a building in terms of a city. There is a type of mind which does that, whose reaction to the stimulus word "building" is a vision of row on row of immense structures with gaping windows and, in the foreground a chasm—deep—its bed sprinkled with moving specks, and from which arises noise. There is another type of mind whose reaction differs. At the stimulus word "building" a carpenter or a mason sees bricks and flooring and doorknobs and studing and nails and mortar; and this is the more constructive vision. These men can build but never, by edict of government, can they teach the other group to build.

The members of this society are the men and women who have managed the maternity of three states and these members have not reacted to the word "maternity" with any vision of throngs of mothers and babies—all smiling. They have reacted with visions of detailed problems involved in the care of maternity and they know that, after

all the centuries of effort, this management is still building bit of bit.

To these people who can build, the vaporings of community management enthusiasts are a foreign language; and yet they are of live interest.

Beginning with the day when the diplomas of reputable medical schools were vised and approved by boards of political appointees, the direction of scientific learning and the prescribing of methods for the art of its application have been increasingly assumed by legislative and lay bodies until many people have grown to believe that to rule it so is to have it so. The fallacy of so disastrous a belief rests as a heavy responsibility upon the general practitioners, the men who have been termed the "submerged 90 per cent" of the medical profession, the men who observe patients at home and whose economic observations and judgments thus grow from the primary foundation rather than from the distorting environment of a large clinic or hospital.

Insofar as the profession has been led to give tacit approval to plans for the empirical administration of impossible teachings by partially trained group-instructors, we have degenerated and failed of our heritage.

For a five year period this failure has imposed upon our public an act which is described by a member of its administrative bureau, Dr. Anna E. Rude, in the *Journal of the A. M. A.* of September 16, 1922, as an act for the furtherance of midwifery in the United States. The words of Dr. Rude presumably carry the weight of authority for she speaks to the A. M. A. for the bureau.

I quote Dr. Rude in stating the purposes of the Bureau under the Federal Maternity Act, page 959; "Unprecedented attention to the registration of midwives, as well as to their training and supervision, is contemplated in many states in which previously this problem has been entirely ignored." And again, buried in some two columns of midwifery discussion, we find on page 961: "Midwives in England have been trained and licensed since the Midwives Act became a law in 1902. Between 1902 and 1914, the maternal mortality from puerperal septic diseases in England and Wales has decreased from 118 to 75 per million female population."

It seems to me that the clearly intended inference of that unique couplet is that the midwives did it.

Dr. Rude is the director, division of hygiene, United States Children's Bureau.

We are not relieved of responsibility until we shall have overcome a popular belief that the proposed teachings are absolute truth, bearing the endorsement of the workshops of science. The

truth is that some of these teachings were good relative conclusions at the time of their promulgation and that at the best, the secondary instructors are usually a decade behind. As long as the field of physiology harbors the vast area of unexplored jungles that it does today, teaching must be relative and interpretation and co-relation must be individual.

Now, when it is proposed that praiseworthy teachings and practice be taken from the hands of those able to use them at an approximate true valuation and broadcast in an unwise manner by people with no conception of relative values, then it is time when we must revert to the old established idea that hard work and detailed drudgery are necessary to success; and that the expert use of the five human senses is a prime factor in the diagnosis and treatment of maternity ailments for each individual case.

The public has been taught to believe that the medical profession treats with medicine or with surgery, one or both. If they were taught that every remedial measure ever proved to have value, through all the generations of history, was included in the armamentarium of the profession then we might expect less of meddlesome interference with the management of physiologic conditions and aberrations.

We should now ask that the men who are possessed of understanding train their people to believe that generalities in education or treatment are always faulty, that the radical proposal for government help in an extra-governmental matter is certain of failure because it attempts to build from the top down, that we must distinguish between the necessary autocracy of emergency management and the necessary conservatism of normal living. And in addition, I ask that any member of the profession who is still "sold" on any grandiose plan for group maternity welfare consider this, an idea which is born of plodding inquiry at the source: maternity patients will continue to regard their problems as individual and to prefer sympathetic understanding to machine-like efficiency. These people will accept the benefits of scientific information if made to suit their taste but they cannot be compelled and, in matters of practice, when scientific knowledge conflicts with human emotion and the emotion is not controlled, then so much the worse for science; and consequently for the patient.

We should endeavor to remedy our faults. If our neglect of the puerperium is so general as to constitute a scandal or if bad judgment in the conduct of labor has wrecked an undue proportion of women, we should be the first to acknowledge and to decry. But the remedy would

lie within the profession and be a matter of work, and public good is not to be had through the legislative fostering of illy-equipped mid-wives or other practitioners, or through the rantings of lay reformers, except in so far as such measures stimulate us to see and correct our own shortcomings. Any attempt at the socialization of physiology will fail but very great harm may result from the attempt.

THE OPHTHALMOLOGIST, ROENTGENOLOGIST AND SEROLOGIST INDISPENSABLE TO THE SYPHILOLOGIST

ROBERT E. JAMESON, M.D., Davenport

In my limited experience, I have learned that, in the diagnosis of syphilis, the ophthalmologist, roentgenologist and serologist are indispensable to the syphilologist. Syphilis has been diagnosed by the well trained ophthalmologist and roentgenologist in many cases where the usual clinical manifestations of syphilis, and a positive Wassermann were not present. In fact, the cases that I have in mind, are those cases that are seen by the ophthalmologist for some visual disturbance, and a careful eye examination reveals a syphilitic eye lesion, or those cases that are sent to the roentgenologist for some visceral or bone x-rays, and a luetic lesion is unexpectedly found.

THE OPHTHALMOLOGIST

Often patients are fitted with glasses, by a jeweler or an optometrist, and then finally, since the eye condition is getting worse, consult the ophthalmologist for the relief of the visual disturbances. Many of these cases are in children, usually of school age, or even younger, and the diagnosis of syphilis, so unexpectedly discovered, makes it imperative that the parents, brothers and sisters also, should be brought under observation, the necessary examinations made and anti-syphilitic treatment given as indicated. To quote from an article by Dr. H. H. Hazen, in the American Journal of Syphilis: "A special examination by a skilled ophthalmologist will frequently reveal syphilis in unusual cases."

At times when a spinal fluid examination is negative, a skilled ophthalmologist may be able to diagnose such a condition from the eye grounds. While serving as examiner on one of the advisory boards he was very much struck by the fact that the ophthalmologist on the board recognized the existence of syphilis in practically every case, and that he unearthed many instances of the disease which were negative to the general physical examination.

THE ROENTGENOLOGIST

The roentgenologist will many times differentiate a syphilitic process of the bone from sarcoma, giant cell sarcoma, bone cyst, tuberculosis, rickets, injuries, and the early detection of aneurysm and dilatation of the aorta. I believe that it is now generally accepted that many cases formerly suspected and diagnosed as tuberculosis of the lung have been found to be luetic.

THE WASSERMANN TEST

The Wassermann test has been accepted as one of a number of the methods for diagnosing syphilis, it is not infallible, and never has such a claim been made for it by those in authority. We are advised however, by various authorities that there are some twenty or more conditions which will give us a false positive reaction, and again some twelve or more conditions which will give us a false negative reaction. We see patients who have at some time or another been advised by their attending physician that they are, or have been cured, of syphilis, because they have had a blood test, the reaction of which was negative. This I have learned from patients who have told me that they did have syphilis, but were cured, and so advised by their physician, as they had had a negative Wassermann reaction. I am informed by authorities, and have learned from the various printed sources that one negative blood test following a course of anti-syphilitic treatment is not to be taken as final, but that every patient who has syphilis and has had anti-syphilitic treatment should have a blood Wassermann test made one month or six weeks after such a course of treatment, if negative, then the patient should have a blood test made every six months for at least two years, and if the Wassermann blood test shows negative during the above time, the patient should then have a spinal fluid Wassermann examination made, if that be negative, then the patient should be referred to the ophthalmologist for a thorough eye examination, if that too is negative, then the reflexes should be examined, if negative, we may then feel quite sure if no other clinical evidences of the disease are present that the patient may be informed that all tests are negative, and clinical evidences of his disease are absent, but that he should at any time keep more or less in touch with his attending physician. It is claimed by some authorities that 20 per cent of the population of the United States are syphilitic, and these figures are based upon the findings tabulated in the last five or ten years, with the modern standardized methods of examination.

If you will permit me to deviate somewhat

from the subject in order to call to your attention the importance of making the best use of these methods for the determination of syphilis. Some years ago mercury and the iodides were used and called specifics for the cure of syphilis, today we know, or at least it is now accepted, that mercury and the iodides alone are not specifics for the cure of syphilis. Syphilologists of today would not give a patient a few mercury pills and say this will cure you. Ten, twenty and more years ago that treatment was given, and thanks to the Wassermann test this form of treatment has been shown to be inefficient, and when present day anti-syphilitic treatment is given those cases, their symptoms clear up. It has been said that it is doubtful whether patients who were treated with mercury alone were ever cured. The Wassermann test at least has proven that many so-called cures have had the symptoms relieved only. The following cases will better illustrate the points I wish to make and are cases that were not suspected of having syphilis, but very fortunate for them they fell into the hands of competent ophthalmologists and roentgenologists.

Case 1. Miss G., age eight, was brought in with the complaint of intense pain in the right tibia. Osteomyelitis was suspected by the attending physician, and x-ray examination was made and a diagnosis of syphilitic periostitis found, anti-syphilitic treatment was administered and the case cleared up, the other members of the family were examined and three were found to be four plus positive Wassermann. I wish to state that a married sister of this patient has a four plus positive Wassermann reaction, and has a daughter age of four years with a syphilitic iritis. (Third generation.)

Case 2. Mr. P., age twenty-one, single, laborer. This patient was sent to an industrial surgeon by his employer, because he complained of a painful swelling in the proximal digit of the right ring finger which he alleged to be due to an injury. The common signs and symptoms of injury were absent and his history indicated that the malady had gradually developed over a period of several weeks. The Wassermann at this time was negative. The patient admitted having had a chancre and secondary eruption which disappeared under a course of anti-syphilitic treatment, all subsequent Wassermann reactions were negative, in spite of the negative Wassermann blood tests, however, an x-ray examination showed the typical uniform spindled shaped thickening of the periosteum found in syphilitic periostitis of the digits, the swelling and pain in the finger promptly disappeared under anti-syphilitic treatment and full function was restored.

Case 3. Miss O., age five, at the age of four, gradually developed a photophobia, which became so marked that she would not go into an ordinary lighted room without the eyes being protected from the light. At the time of the onset of this trouble

an epidemic of eye infections was prevalent in the school and the above condition was taken to be an aggravated case of this condition (an older child had a similar condition), as the photophobia became worse an ophthalmologist was consulted whose examination showed the condition to be one of syphilitic iritis. In about seven weeks the photophobia disappeared under anti-syphilitic treatment, the mother's Wassermann test was taken and showed four plus, the father's Wassermann was negative.

Case 4. Mr. G., age fifty, single, laborer, consulted an ophthalmologist for almost complete loss of vision, the ophthalmologist made a diagnosis of optic atrophy and referred the case to the syphilogist for serological examination and treatment, if indicated. The blood Wassermann test was four plus. The history of this case is interesting because it presents a lamentable fact, so often observed, that had this patient been seen and examined by an ophthalmologist at the time he was fitted with glasses by a jeweler some ten or more years previous, with proper treatment he could have had a possible marked permanent improvement in vision, the man is at this time a county charge, he is strong physically but his eye sight is so poor he cannot see to get about.

CHORIOEPITHELIOMA OF THE UTERUS FOLLOWING AND RESULTING FROM HYDATID MOLE*

G. T. McCAULIFF, M.D., F.A.C.S., Webster City

In all the category of malignant moplasm, probably no tumor holds a more unique or interesting place than the chorioepithelioma, a parasitic growth made up of cells foreign to, but nourished by, the tissues in which it develops. In no other variety of tumor is the transition from normal and physiological to a true malignant growth, as strikingly illustrated. Its study means more than the study or mere histologic details for it carries one into the domains of embryology, pathology and physiology.

It is generally conceded that all malignancies are due to transplanted or misplaced cells. Nowhere is this proven more conclusively than in chorioepithelioma. Beginning with the chorionic villi, we find them made up of a stroma of light textured myxomatous-looking connective tissue and covered during early pregnancy by the trophoblast made up of two layers of cells, the outer or syncytial, forming a narrow layer of protoplasm with neuclei at frequent intervals. The inner adjoins the stroma and is made up of well defined cuboidal or polygonal cells. This layer while distinct in early gestation, disappears at about the mid-period.

Vesicular degeneration of the chorion is not uncommon and the "hydatiform or grape mole is due to a proliferation and degeneration with edema of the stroma of the chorionic villi and increase of the syncytium". Just why they develop, no one seems to definitely know. DeLee thinks their formation is the result of implantation of the ovum on a diseased endometrium. Others hold the theory that the process is due to a diseased ovum itself. Be this as it may, of one thing we are certain and that is that a certain proportion of these moles are expelled spontaneously between the second and ninth months while others invade the muscle of the uterus to various depths, some even completely perforating its walls, causing septicemia and general peritonitis. This latter class has an important relation to chorioepithelioma since a large number develop these tumors. Ewing states that the chief practical question concerns the proliferation of Langhans' and syncytial cells. In some cases these cells fail to exhibit any increased growth and such moles generally pursue a favorable course. In other cases the proliferation of cells is considerable and such processes either suggest malignancy or display definite characters of an invasive tumor. He reports a number of cases in which the chorionic tumor has not gone beyond the reach of the curette and another group in which the villi are elongated and have penetrated deeply into the uterine wall and invaded the blood-vessel walls.

Caturani in his complete review of all questions covering the subject of hydatiform mole and chorioepithelioma including embryological data, histological structure of hydatid mole; characters of malignancy in the constitution of hydatiform moles, independent from the invasion of maternal structures; hydatiform mole in its relation to the maternal structures; simple hydatiform mole not invasive; invasive or destructive moles; factors preventing the passage from the simple to the invasive form of hydatiform mole; transitional forms, linking hydatiform mole and chorioepithelioma; chorioepithelioma; prognosis and practical deductions relative to diagnosis and treatment from the comparative anatomical study of hydatiform mole and chorionic tumors gives the following conclusions:

1. We cannot accept as absolutely correct the plan of unification of Nathan, Larrier and Brindeau, which makes the hydatiform mole the first stage, not necessarily followed by the second, chorioepithelioma, on the belief of the common anatomical and physiological behavior of the elements in both conditions. But the more we find reproduced in hydatiform mole the features of the primitive chorion (vacuolated syncytium, Langhans' cells in active mi-

*Read by title at the Seventy-Second Annual Session, Iowa State Medical Society, Ottumwa, Iowa, May 9, 10, 11, 1923.

tosis, comparative disappearance of the connective tissue core of the villus), the proliferation assumes a very suspicious significance.

2. The real evidence of the malignant tendencies of hydatiform mole can be obtained by a close investigation of its relation with the maternal structures.

3. The invasive mole deserves to be credited as a form of passage to chorioepithelioma. Most of them are real transitional forms, and the best denomination to be assigned to them is that of chorioepithelioma malignum.

4. The core of the villus is not to be considered as a factor of exclusion in the diagnosis of chorionepithelioma.

5. The reduction of the classification of Marchand to two types synsytioma, and chorioepithelioma finds an almost uniform support in the study of the statistics, as it seems to exactly correspond to the anatomical constitution of chorionic tumors and has a decided prognostic significance.

Cottalorda in a comprehensive review of sixty-three cases concludes as follows:

Hydatiform mole gives rise to malignant chorioepithelioma in about 9 per cent of the cases of hydatid mole.

Malignant chorioepithelioma is preceded by hydatiform mole in about 50 per cent of the cases of malignant chorioepithelioma.

Hydatiform mole and chorioepitheliomas are accompanied by unilateral or bilateral cysts of the ovaries in 59 out of 100 cases of mole and in 9.4 out of 100 cases of chorioepithelioma.

The evidence shows that lutein cysts are related in etiology and evolution to the etiology and evolution of moles and chorioepitheliomas.

These lutein cysts are the results of internal secretion of the ovary caused by the hyperintoxication accompanying hydatiform mole.

They are of surgical significance in that they complicate the mole and necessitate intervention. In a large number of cases they should be regarded as an indication of probably evolution into chorioepithelioma. However, a number of writers report that they disappear after expulsion of the mole. Though the fact of disappearance may be incontestable, it is not the general rule.

Chorioepithelioma following hydatid mole develops from the foetal ectodum, beginning during pregnancy or after the uterus is emptied. It is characterized by exuberant growth early and extensive local and general metastases, and rapid cachexia often combined with sepsis. Novak states that if there is any one feature which distinguishes chorioepithelioma from its prototype, it is its invasiveness and without definite histologic evidence of the latter, it is as a rule hazardous to make a diagnosis of chorioepithelioma.

Authorities are practically agreed that there are two varieties, one highly malignant, the other practically benign, and considerable difficulty

arises in determining which is the malignant and which the semi-benign type. Even were we able before operation to secure a section for microscopical examination, there might still be some doubt for many eminent pathologists have stated that it is impossible to recognize any histological differences. Vineburg states that the consensus of opinion at present is that there is no definite histological features characterizing the one variety from the other. Certain it is that laboratory findings differ considerably as I will point out later in a case report.

Chorionic villi may or may not be present. If present, they are likely to be enlarged and buried in tumor cells arranged in honey comb pattern. Islands of Langhans' cells alternating with syncytial tissue form a meshwork about the blood spaces. Usually blood and fibrin are present and account for the dark reddish color of the tumor. This neoplasm occurs rather infrequently as is pointed out by Vineburg who with Pollosson, Violet and Briquel have collected from the literature but 533 recorded cases up to the beginning of 1918.

Of the symptoms, the most characteristic is uterine hemorrhage. This is usually very profuse and the patient may become markedly exsanguinated. In some cases, the bleeding is moderate but is protracted like that following placental residue. If subjected to curettage, the bleeding soon recurs. This should immediately arouse suspicion. There is often a period of from three to six weeks following the evacuation of a mole in which there is very little or no hemorrhage, then there may be a sudden, intense hemorrhage, so intense as to almost completely drain the system of blood. The persistent and often times abundant bleeding lead to marked anemia, the hemoglobin often reaching 20 per cent or less. Cachexia becomes manifest, sepsis is frequently present giving an elevation of one or two degrees of temperature. Albuminuria is sometimes present but not diagnostic. Under a picture of rapidly advancing cachexia, metastases into the lungs, kidneys, spleen, liver and brain follow. The patient looks and is sick, attempts to stop the hemorrhage often lead to infection of necrotic tissues and perforation of the uterine walls which may be thin as paper. General sepsis follow and the patient dies of cachexia and anemia.

Pollosson and Violet mention the presence of colic-like pains caused by the expulsion of blood clots and debris from the growth. Dull pain may be noted in the late stages and after the broad ligaments have become invaded. Hemoptysis may be a symptom and usually indicates pulmon-

ary metastasis. Vascular tumors of a deep bluish color may appear in the vaginal wall at an early period. The uterus is subinvolved and the cervix is often soft and patulous. Many metastases occur and may invade almost any organ in the body. These take place throughout the blood current. Vineburg states that the lungs are the most frequent site and following these come the vagina and vulva where their size and form are variable. The uterine ligaments, tubes and ovaries may be involved; following these come the liver, kidneys and central nervous system and in occasional instances, the stomach, large and small intestines, heart, pericardium, pancreas, spleen, thyroid, suprarenal capsules, diaphragm, bone and subcutaneous cellular tissues.

The diagnosis is difficult but if after the uterus has been previously emptied of the mole, either spontaneously or by curette, a profuse hemorrhage occurs, we should immediately suspect chorioepithelioma. If a curette is used to empty the uterus of a mole, it should be a large dull one as the walls of the uterus may be so thin that a perforation may be made with the curette.

Hemorrhage, subinvolution of the uterus, a moderate degree of temperature, advancing anemia and cachexia furnish the early diagnostic signs. Later the tumor mass itself may be palpated, either within or without the uterus. Vineburg advocates a vaginal hysterectomy and the use of the finger in the uterus. Gordon advocates an abdominal hysterectomy. These methods seem rather drastic, especially in view of the fact that palpation alone will not always reveal the presence of the tumor if early and it is imbedded in the uterine wall. The multilocular and bilateral ovarian cyst frequently accompanying both hydatid mole and chorioepithelioma, it seems should be considered. Some authors claim their occurrence in chorioepithelioma as high as 91 per cent and in hydatid mole 80 per cent. They are supposed to be benign and to disappear after removal of hydatid mole or chorioepithelioma. However, in one of the cases to be reported, I removed a small section of ovarian tissue containing a very small, dark, apparently hemorrhagic area and submitted it to a pathologist along with the section of uterus. The report was carcinoma.

The prognosis is uncertain, depending on the malignancy of growth and resistance of individual. Schwarzer states that the degree of malignancy depends less on the form of the cells and other grouping than on local condition, such as the physiothermic resistance of tissues and their condition with respect to nourishment and the general reactive power of the body as a whole.

Early diagnosis and surgical interference lowers the mortality.

Case 1. Hydatid mole followed by chorioepithelioma. Mrs. T. F.—age thirty-seven, married nineteen years, menstruation always somewhat irregular—miscarried at four months, following appendectomy seventeen years ago. Not pregnant for eleven years, conceived and gave birth later to normal, full-term child. No more pregnancies until 1921, missed menstrual period in August, one week later there appeared a slight flow which continued at intervals until December 19 when she passed a hydatid mole—remaining fragments removed with dull curette—a second curettage one week later. Left hospital January 1 apparently well. Up and about doing own housework until January 18 when she had a sudden and very severe hemorrhage, necessitating the packing of uterus and vagina. Entered hospital on following day. Blood examination showed hemoglobin of 20 per cent—uterus repacked for several days. A diagnosis of malignancy, probably chorioepithelioma and on February 12 with hemoglobin of 47 per cent, hysterectomy. Uterus about twice normal size, adnexa apparently normal, inner surface of uterus smooth but there were three small hemorrhagic-like spots on inner wall near fundus. Microscopical examination and report of chorioepithelioma. She is now in good health and doing own housework fifteen months after operation.

Case 2. Mrs. B, age thirty-three, married ten years—had three children—last two and one-half years old. No miscarriages, menstruation always regular and normal in amount and time, missed her period August 1, 1922. Two weeks later on August 15, she began to flow, this continued more or less irregularly up until about October 15 when flow became so profuse and uterus seemed to be enlarging so rapidly that she was removed to a hospital. From the time of entering until I saw her on October 21, her hemoglobin had dropped from 48 per cent to 29 per cent. During the time of examination on latter date, she expelled a portion of hydatid mole and had quite a profuse hemorrhage. The remainder was removed with a large, dull curette and uterus packed with gauze. About November 10, she began to flow again. This continued until November 17 when she was again curetted and scraping submitted to a pathologist. The report showed suspicion of early malignancy. The uterus remained about twice normal size and bilateral ovarian cysts, each the size of an orange, could be palpated. Her temperature ranged one-half degree above normal. From the symptoms enumerated, together with the laboratory report, a diagnosis of chorioepithelioma was made and on November 25, the uterus and adnexa were removed together with broad ligaments as far out as possible to go. The patient made an uneventful recovery, leaving the hospital three weeks later and to all appearances, is perfectly well at the present time. A small piece of ovarian tissue which contained a small, apparently hemorrhagic area, was removed and together with a section of uterus from the sus-

picious area, submitted to a pathologist. Sections of uterus submitted to two other pathologists. All three of these men are eminent in their line yet three different reports were returned, one of benign growth, one of syncytial invasion of uterine wall and one of carcinoma of uterus and ovary.

In view of the similarity of cell contents and the diversity of opinions of expert pathologists as to the malignancy or non-malignancy of many of these chorionic neoplasms, it appears to me that as soon as such a growth is determined, the treatment should be surgical and should consist of a complete hysterectomy with removal of adnexa and the broad ligament well out from the uterus to avoid if possible leaving any cells that may have found their way from the uterus along the vessels of these ligaments.

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IOWA STATE UNIVERSITY NEWS NOTES

Don M. Griswold, M.D.

Dr. Emil Grinker of Chicago addressed the Johnson County Medical Society, June 28, on the subject of "Idiopathic Epilepsy."

Dr. Aura Miller, for the past three years, assistant hospital pathologist at the University Hospital, has recently received an appointment from Harvard University. Dr. Miller will take up his work with Dr. Wolback, July 1.

Dr. Vern C. Cone, research assistant at the Psychopathic Hospital, has been awarded a fellowship by the National Research Council. Dr. Cone will begin his work July 1st at Columbia University under the direction of Drs. Tilney and Jobling.

Dr. F. H. Falls, head of the department of obstetrics and gynecology, gave an address before the Jackson County Medical Society Wednesday, May 28, at Maquoketa, the subject of his address was "Craniotomy." This was illustrated by lantern slides.

Dr. Emil Meyer of New York, who gave an address before the section of head specialties at the recent meeting of the Iowa State Medical Society, spent a day in Iowa City prior to the Des Moines meeting. Dr. Meyer was guest of the University. While in Iowa City he also addressed the senior medical students on "The Preparation and Presentation of Scientific Papers", a subject in which he has for years been an authority.

Dr. Albert H. Byfield, professor of pediatrics, has resigned to go to Europe for eighteen months' research in his specialty.

Dr. Edward Walker of Edinburgh, Scotland, has arrived to take up post-graduate studies at the Childrens' Hospital. He is the son of Sir Norman Walker, president of the Conjoined Medical Examining Board of the British Empire. After completing his studies at the Childrens' Hospital Dr. Walker will continue his American studies under the direction of Dr. Walter L. Biering of Des Moines.

Dr. Ralph Bowen of the recent graduating class has been appointed interne at the Childrens' Hospital.

Dr. Victor G. Meyers of New York City, has been appointed pathological chemist in the College of Medicine. Until the new buildings are ready Dr. Meyers will have his laboratories in the new chemistry building, but will later take up his work in the hospital in close association in the clinical cases.

Dr. John R. Shrader, for the past two years, hospital chemist, has been appointed as assistant resident in the department of medicine at the Peter Brent Brigham Hospital, Boston, Massachusetts, and will take up his work July 1, with Dr. Henry A. Christian.

Dr. Campbell H. Howard, for fourteen years professor and head of the department of theory and practice of medicine, has recently resigned. Dr. Howard will return to McGill University as professor of internal medicine and attending physician at the Montreal General Hospital. Dr. Howard had many ties which bound him very closely to the University of Iowa, but the fact that he is an alumnus of McGill University and that his father had been professor of medicine at McGill during the time that Sir William Osler was a student there, and many personal and family ties led him to the decision to return.

NO TIME TO SPARE

It will soon be too late to protect the annual sufferers from fall hay fever by giving them a full prophylactic course of pollen extract; but it is not yet too late. The full course requires six to eight weeks, one injection being given every three or four days. By beginning early, severe reactions can be avoided, the first few doses being very small; and as every injection raises the patient's resistance, the gradually increasing doses that follow are usually as well borne as the first.

While most cases of fall hay fever are due to ragweed pollen, it is advised that a diagnostic test be made before the extract is given hypodermically, since this takes only a few minutes of the doctor's time. The test is a cutaneous one.

Parke, Davis & Co. offer to supply physicians with a booklet on Pollen Extracts. See their advertisement in this issue.

The Journal of the Iowa State Medical Society

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SUDDEN DEATHS ASSOCIATED WITH THE INJECTION OF FOREIGN SUBSTANCES

Dr. R. W. Lamson in the Journal of American Medical Association for April 5, has reviewed the cases of sudden death from serum therapy. This is an important contribution and should be carefully considered as a means of relieving fears that have been entertained as to the dangers of such injections.

Gottstein gives a brief summary of twelve fatal cases. Rosenau and Anderson have collected from the literature nineteen cases. Gillette from the literature, including unpublished cases, sixteen cases. The three references gives a total of thirty-seven cases. Reviewing these reported cases, Dr. Lamson states, "This number is, of course, grossly incorrect, and, a careful study of the literature to date indicates many duplications of reported cases, as well as numerous instances in which death obviously was not due to the injection of the foreign material."

Park found that of the large number of cases treated with diphtheria antitoxin, there was one death for every 70,000 persons injected. These statistics were based on about 350,000 persons treated with serum.

Following these statistics, Dr. Lamson analyzes the cases reported of sudden death and presents certain comparisons with other accidents which occur in the practice of medicine and surgery.

PHYSICIANS FEES

From a paper by Dr. D. E. Smallhorst of El Paso, Texas, in "Southwestern Medicine," it appears that medical fees were never so low as now, measured by the purchasing power of a dollar. It is often intimated that high fees are a source of discontent with the public, but apparently this is not the only one. According to investigations made by the French government in Egypt in 1902, a code fixing medical fees was found in about 2250 B. C. There was one price for the wealthy, one for the middle class and one for the working people. The translation reads as follows:

If a physician operate on a man for a severe wound, or make a severe wound upon a man with bronze lancet and save the man's life, or if he open an abscess (in the eye) of a man with a bronze lancet and save the man's eye, he shall receive ten shekels of silver as his fee. If he be a free man, he shall receive five shekels. If he be a man's slave, the owner of the slave shall give the physician two shekels of silver.

If a physician set a broken bone for a man or cure his diseased bowel, the patient shall give five shekels of silver to the physician. If he be a free man, he shall give three shekels of silver. If it be a man's slave, the owner of the slave shall give two shekels of silver to the physician.

A silver shekel was about 50 cents. Ten silver shekels would be about \$5. Now as the average yearly wage for skilled labor was about ten silver shekels, or \$5, the fee of ten silver shekels would, at the present day conditions, mean about \$2,500 to \$3,000. These operations were the major operations of year 2250 B. C., other treatments were paid on a proportionate basis. Thus it will be seen that the income of a successful physician at that time was much greater than today.

There was another side which would tend to discourage an unsuccessful or incompetent physician. The code further reads:

If a physician operate on a man for a severe wound with a bronze lancet and cause the man's death, or open an abscess in the eye with a bronze lancet and destroy the man's eye, they shall cut off his fingers. If a physician operate on a slave of a free man for a severe wound with a bronze lancet and cause the man's death, he shall restore a slave of equal value. If he open an abscess in his eye with a bronze lancet and destroy his eye, he shall pay silver to the extent of one-half of his price.

The practice of medicine was divided into specialties: (1) The higher class practice in conjurations, dissolving charms, etc.; (2) interpretation of dreams of the sick; (3) the practice of ordinary medicine. There was another class that were army surgeons, paid by the state. Then

follows the training of physicians. The higher class were priests (sages and soothsayers). If the sick were visited in their homes, the call for the physician was sent through the temple and the head priest dispatched the specialist best suited to the case. (There were physicians for each part of the body). The rich and the persons of rank had their own physicians. Only the sons of physicians could become physicians.

In ancient Persia the fees were liberal, except priests, who paid by benediction. The chief of a tribe paid with a farm. A local magnate or a boy of good family, paid with one large draught ox; a householder with a small draught ox. The lady of the house paid with one she ass. The wife of a chief of the family, one cow; the wife of the tribe, one horse; the wife of the chief of the province, one she camel.

The early Greek physician received an honorarium. At the time of Hippocrates, 460 B. C., the medical practitioner was paid by the city (public dispensary practice). His pay was from \$300 to \$500 a year, as measured by present standards, \$1,500 to \$2,500. It is said that Demokades received a pair of gold rings for reducing a dislocation for Darius, King of the Persians. As he did not appear to be satisfied with the fee, the king gave him a fully furnished house, with the right to sit at the king's table. Clembtratus received \$100,000 from Antiachus for a successful treatment of the king.

An honorarium among the Greeks was regulated by the wealth of the patient to maximum for night visits \$100, the minimum 20 cents.

In Rome there was no special regulations as to fees. Galen received the equivalent of \$2,000 in our money for a successful treatment of a febrile attack in the consul's wife. In Rome most of the physicians were Greek or had Greek names. Xenaphon was physician-in-ordinary to the Emperor and had great influence. His brother, who succeeded him, received a salary of \$25,000 a year and claimed he had given up a professional income of \$40,000 a year. The two brothers, in spite of large sums given their native town, left an estate of \$1,500,000.

The ordinary fee for a physician in Rome was 30 cents a visit, equal to \$3 in our money at the present day.

In England in the 13th century, a laborer's wage was 4 or 5 cents a day. A physician's day call 15 cents, night call 30 cents, but a fat sheep could be purchased for one shilling two pence (26c), a fat hog three shillings (72c), a stall fed ox 16 shillings (\$3.85) and other foodstuff in proportion.

We have thus abstracted from Smallhorst's paper certain interesting facts as to physicians' fees at different periods of the world's history, which tend to show that considering the services rendered and the equipment necessary to conduct a modern practice, the fees are smaller than in any previous period of the world's history. If we consider the special fees of great modern surgeons, they are scarcely equal to fees paid great physicians in ancient days.

A full reading of Dr. Smallhorst's paper will show that as much attention was given to presenting bills and collecting fees as at the present day. In ancient Greece state medicine had its vogue as in Europe today. It is to be observed that in ancient days the state exercised greater care than the United States in guarding the public interests as to the qualification of physicians.

LIFE INSURANCE

We are publishing in this number of the Journal a valuable paper on life insurance examinations by Dr. Martin I. Olsen of Des Moines.

It is difficult to estimate the great economic value of life insurance and the wonder is that it is so difficult to sell insurance. In earlier days a life insurance policy was looked upon as an emergency provision for immediate relief until the estate could be settled, or as a helpful aid to a destitute family when the bread winner was gone. This feature of life insurance has not lessened, but rather, increased.

In later years the activities of life insurance companies have greatly expended until now it is one of the most important of our business activities. Farmers, like other business men, find it a great advantage to borrow money to develop their farms and increase the earnings of their estates, and we find that life insurance companies are the largest investors in farm mortgages in Iowa. At the close of 1917 life insurance companies held \$250,000,000 of Iowa farm mortgages at a 5½ per cent interest. Farm mortgages do not mean poverty to farmers more than to other business. We refer to the above investments to show the great advantage to the public of a great supply of money for business development, and to call attention to the fact that about one-half of the money borrowed by farmers comes from life insurance companies.

When we consider what life insurance means to those who carry policies for the protection of the families of the insured; for indemnity in declining years or accidental disability; for great investments for the protection of policyholders, it seems clear that the most watchful business

care must be observed, not only on the part of those having the management of this great business in hand, but also on the part of the state to prevent fraudulent practices. It is clear that the first and fundamental element of safety is the medical examination. Dr. Olsen in his paper and in the discussion which followed, pointed out the first element of safety. Life insurance companies must have a standard of physical health which has been worked out with great care by medical directors, based on accumulated statistics. It is clear from a business point of view that if the death rate of policyholders is high, a higher rate of premium must be charged, that is, a good risk must pay a high rate to protect a poor risk, which would discourage insurance under our recognized economic law; therefore, a standard must be adopted that will include the good risks, and the medical examination shall determine who the good risks are. This is not an easy matter. Some examiners are competent and conscientious and will exercise all the skill and knowledge they possess to find out. These examiners are valuable assets to the company. Some examiners are not competent or conscientious, and there are all degrees of this kind, and they are elements of danger and serious loss to the company. Wise companies will appoint district and chief medical directors of high character and skill who will supervise the local examiners and find out who are good examiners and who are not. If the chief medical director cannot do this, some one else should take his place. Rules may be formulated, but will not work automatically. It is the personal equation that counts. If the poor examiner cannot or will not mend his ways, he should be discharged. The appointment of a physician as local examiner gives him no lien on an insurance company and may be discharged for cause; insurance is too big a business to be compromised for sentiment. A good, conscientious and honest examiner should be cherished by the chief examiner.

Reference was made to preparing the applicant for examination. If the examiner is a courteous gentleman and explains to the risk the importance of a frank statement of facts, and the confidential character of the transaction and how much attaches to all concerned by a fair and unreserved relation of what the director requires, and a regard to the delicate feelings of the applicant, no serious difficulty will be experienced. I am not surprised at Dr. Priestley's success. A reverse course will at once raise an antagonism difficult to overcome. In exceptional cases ladies will insist that the examination be made at their homes, and I think this may be permitted. I have found this to be true in certain private patients, but gen-

erally after a little reassurance, the objection to going to the doctor's office will be overcome.

Every medical examiner should be so profoundly impressed by the importance of his office, that whether he has one or many examinations, he should give the best he has in him, and if he fails and another man is given his place, it is not because the chief takes pleasure in removing him, but is performing a duty he owes his company.

It occurs to me that reprints of this paper and discussion should be placed in the hands of all local examiners, old or new.

THE POOR

There are certain disadvantages in being poor, especially in relation to medical services. It has in the past been the common practice of county boards of supervisors to advertise for the submission of bids for the medical treatment of the poor and awarding the contract to the lowest bidder. This method of securing medical service for the unfortunate has never been satisfactory. It has generally resulted in an inferior service and neglect, and it has often fallen to other physicians to render the service the poor doctor has contracted to perform, and the services have been irregular and inefficient.

There has been a feeling in more progressive communities that the poor should receive better service than can be obtained by this antiquated method, which compares with Dicken's stories of workhouse treatment in England seventy years ago. In several counties, medical societies have undertaken to contract for this service, thus affording choice of physician and service equal to that obtained by the more fortunate.

In Dubuque county the county society has for four or five years contracted to render this service for \$3,250. Through some influence the supervisors are contemplating going back to the old discredited plan, using the arguments so often employed when medical organizations are involved. The records of Dubuque County Society show that members of the society rendered service to the amount of \$8,000 for the past year, for \$3,250. The money received by the several societies which have adopted this plan, has been used for society work for the benefit of the profession and for the people the profession serves.

The Marshall County Medical Society contracts with the county to care for the sick poor. The board of supervisors of Marshall county entered into an agreement with the county society to provide medical services for the county poor for \$2,000. The patient may choose his own physician, but the call must be made through the social service secretary of the board of supervisors, a township trustee, or any other person whom the supervisors may select.

**Minutes of the Iowa State Medical Society
Seventy-Third Annual Session,
May 7, 8, 9, 1924
Des Moines**

Wednesday, May 7, Morning

The Seventy-third Annual Session of the Iowa State Medical Society was held in Hotel Fort Des Moines, Des Moines, May 7, 8 and 9, 1924.

The Society was called to order at 9 o'clock by the President, Dr. Oliver J. Fay, Des Moines. The meeting was opened with invocation by Dr. Burtis R. MacHatton, Des Moines, Pastor, Plymouth Congregational Church.

The address of welcome for the city was given by Dr. Lewis Schooler, as follows:

Mr. President, members of the Iowa State Medical Society:

Within the great state of Iowa are several cities which are capable of entertaining a meeting of this kind and of treating the visiting members well, but since the organization of the Society nearly seventy-five years ago it has periodically met in Des Moines, and during the last few years there has been a marked tendency to favor Des Moines more frequently than the other cities of the state, due to its central location and superior transportation facilities. We appreciate the fact that many of you come a long distance from the different corners of the state for the purpose of attending these annual meetings. You come not alone that you may be benefited yourselves, but that you may bring to the profession of the city a message which will be beneficial not only to it, but which will accrue to the benefit of the people and in the last analysis to the entire commonwealth of the state of Iowa. The state was hardly formed when this organization came into existence. We must remember that in those days there were men as progressive as you and I, and that this progress has continued until the Iowa State Medical Society is noted as one of the leading medical organizations of the country. Members of the profession of Iowa are called to responsible positions in other states, and at least one native of Iowa has been president of the A. M. A.

Why do we give an address of welcome in a community of this kind to a society of scientific men? The address of welcome had its origin in antiquity—so far back in antiquity that no one knows exactly when it came into existence. But doubtless it played a part in the progress of the people during early tribal days, and as the world progressed in civilization the custom was passed along by force of habit.

Therefore as a token of our appreciation of your meeting here, I welcome you to the hospitality and good will of the people of Des Moines.

Dr. Matthew L. Turner, Des Moines, President of the Polk County Medical Society, on behalf of the local profession extended to the visiting members the following words of welcome:

Mr. President, members of the Iowa State Medical Society:

Nearly three-quarters of a century ago the medical fraternity of this state began to make annual pilgrimages to some center for the purpose of mingling together for mutual good. During that period wonderful progress has been made in the different sciences, but none have been more far-reaching or of more benefit to society than has the progress in medicine. The world should, and I believe does, applaud the achievement in the medical world today. These meetings are but mile-posts along the progressive work of medicine.

It is fitting that we should have these annual assemblages. You bring to us something new every year. And these new things brought to us make us better physicians and better members of society. After these associations together we return to our different fields of labor better prepared to administer to the unfortunate of our various communities.

Different county societies over the state have welcomed you to their midst. Some men who have welcomed you have had the gift of eloquence and of oratory, but nowhere and at no time have you had a more hearty welcome than that which I extend to you in behalf of the Polk County Medical Society.

As representing the visiting members, Dr. Emil C. Junger, Soldier, responded to the addresses of welcome.

At the request of President Fay, Dr. A. G. Field, dean of the profession of Iowa and president of the Society in 1872, was escorted to a seat beside the chairman.

Dr. Edward D. Allen, Hampton, read a paper on "Torsion of the Omentum". Discussed by Dr. Louis G. Patty, Carroll, and by Dr. Allen in closing.

Dr. Daniel J. Glomset, Des Moines, addressed the Society on "Principles of Insulin Therapy", followed by Dr. Edwin B. Winnett, Des Moines, with an address on "Practical Application of Insulin Therapy".

The above two papers were discussed by Drs. Walter L. Bierring, Des Moines, and Emil C. Junger, Soldier, the discussion being closed by Drs. Glomset and Winnett.

In presenting to the President the customary symbol of his office, Secretary Throckmorton said:

"President Fay, for one year we have worked together for the accomplishment of one purpose—the betterment of the Iowa State Medical Society. You have been the official head of the Iowa profession during the past year. You have now reached the climax so long looked forward to—that of presiding over the activities of this annual session. To do so properly, custom demands that you should be clothed with the proper symbol of your office.

"Since 1911 it has been the custom of this organization to present to its president the symbol of his office a gavel. Some years ago I had the pleasure of being instrumental whereby every living past president of this organization who had not been the recipient of this symbol received one as a gift from the Society over which he once presided. And so

today I have reserved to myself, perhaps selfishly so, that function. I trust that you and others will not feel that I am too selfish in this, for I have done so for the peculiar reason. I wished to present you with the gavel that would help you to maintain the necessary decorum and keep the program up to schedule. For eight years I have worked with men who have guided the destiny of this Society, whose heritage you, and I, and every other member have enjoyed. A bond of friendship sprang up between these past presidents whom I have served—and myself—a bond never to be effaced, for we were companions together in the one great campaign to make the profession of the state better.

"This past year has been a decidedly pleasant one to me. It has been a genuine pleasure to me to have worked with you. Your ideals were high and your ability unlimited.

"And so, as an evidence of the love and affection of the members of this Society, I take great pleasure, sir, and a peculiar pleasure, in presenting you with this gavel—a gift from the Society which you and I love and honor."

President Fay: "After listening to so brilliant a presentation as that given by our honored Secretary it would be a crime and a shame for me to attempt to express to you the very great pleasure that I have in receiving this gavel. I would like to say for our Secretary that during this year he has made it possible for me to live. He knows everything, he does everything, his ideals are high, and he loves the Iowa State Medical Society.

"I receive this gavel, Mr. Secretary, from you and from the members of the State Medical Society, with more pleasure than I can tell you, for it has been a real honor to me to be your leader during the past year."

Dr. Erle D. Thompkins, Clarion, read a paper on "Syphilis in Surgery". Discussed by Drs. Prince E. Sawyer, Sioux City, and Julius S. Weingart, Des Moines, Dr. Thompkins closing the discussion.

Dr. William E. Ash, Council Bluffs, read a paper on "The Diagnosis and Treatment of Neurosyphilis." Discussed by Drs. Clarence E. Van Epps, Iowa City; J. F. Auner, Des Moines; Granville N. Ryan, Des Moines, F. L. Nelson, Ottumwa; Tom B. Throckmorton, Des Moines, and Frank M. Fuller, Keokuk, the essayist closing the discussion.

Adjourned at 12:15.

Wednesday, May 7, Afternoon

The meeting was called to order at 1:30 o'clock by the President.

A Symposium on "Standardization of Treatment of Fractures" was presented, as follows:

"Fractures of the Skull", Charles S. Krause, Cedar Rapids.

"Fractures of the Upper Extremities", (with lantern demonstration), Peter A. Bendixen, Davenport.

"Fractures of the Lower Extremities (with lantern demonstration), Charles E. Ruth, Des Moines.

Discussion of the Symposium was opened by Dr. David S. Fairchild, Clinton, followed by Dr. F. R.

Holbrook, Des Moines, and Drs. Bendixen and Ruth.

The Address in Medicine was presented by Dr. Isaac A. Abt, Professor of Diseases of Children, Northwestern University Medical School, Chicago; subject, "The Diseases of Twins".

President Fay retired to attend the meeting of the House of Delegates, and Vice-President H. B. Gratiot presided during the remainder of the session.

Dr. Friedrich A. Hecker, Ottumwa, presented a preliminary report on "The Employment of the Buffer Solutions in Acid Intoxications and Acidosis" (with lantern demonstration). Discussed by Drs. Julius S. Weingart, Des Moines, and Wm. C. Newell, Ottumwa, the essayist closing the discussion.

Dr. Paul B. Welch, Cedar Rapids, read a paper on "What Constitutes Constipation, With Some Observations on the Colon." Discussed by Drs. Wesley E. Gatewood, Iowa City, and B. A. Melgaard, Sioux City, the essayist closing the discussion.

The meeting adjourned at 5 o'clock.

Wednesday, May 7, Evening

Following the banquet which was attended by members, wives and friends, President Fay introduced Hon. James Schermerhorn of Detroit, who spoke on "The Signs of the Times".

Thursday, May 8, Morning

The meeting was called to order at 9:10 o'clock by Vice-President Gratiot.

Dr. George M. Crabb, Mason City, read a paper on "The Anatomy of the Appendix as Related to Acute and Chronic Appendicitis", which was discussed by Dr. Edward J. Harnagel, Des Moines.

The House of Delegates having adjourned, President Fay presided during the remainder of the session.

Dr. Robert R. Hansen, Marshalltown, read a paper on "The Treatment of Infections by Means of Transfusion." Discussed by Drs. Coral R. Armentrout, Keokuk; Charles H. Magee, Burlington, and Emil C. Junger.

A Symposium on "Gastric and Duodenal Ulcers" was then presented, as follows:

"Diagnosis and Medical Treatment" (with lantern demonstration), Dr. William H. Rendleman, Davenport, Chairman, Medical Section.

"Pathology and Surgical Treatment", Dr. Channing E. Dakin, Chairman, Surgical Section.

Dr. William D. Runyon, Sioux City, read a paper on "Splenic Anemia". Discussed by Drs. Aldis A. Johnson, Council Bluffs, and Julius S. Weingart, the essayist closing the discussion.

Dr. Edward W. Meis, Sioux City, read a paper on "Acute Endocarditis". Discussed by Drs. Walter L. Bierring and Merrill M. Myers, Des Moines; Frank M. Fuller, Keokuk, and Daniel J. Glomset.

Adjourned at 12 o'clock.

Thursday, May 8, Afternoon

The meeting was called to order at 1:30 by the President.

In the unavoidable absence of Dr. George E. Decker, Davenport, his paper on "The Life Insur-

ance Examination" was, upon motion, read by Dr. Ross Huston, Des Moines. Discussed by Drs. George E. Crawford, Cedar Rapids, and Ross Huston.

Dr. Nathaniel G. Alcock, Iowa City, read a paper on "A Few Aspects of the Subject of Diagnosis and Treatment of Tumors of the Bladder". Discussed by Drs. C. W. Losh, Des Moines, and A. G. Fleischmann, Des Moines.

Dr. Louis T. Curry, Waterloo, read a paper on "The Early Diagnosis of Pulmonary Tuberculosis". Discussed by Drs. Herbert V. Scarborough, Oakdale; V. L. Treynor, Council Bluffs, and John H. Peck, Des Moines.

The Address in Surgery was given by Dr. Hubert A. Royster, Raleigh, North Carolina, his subject being: "The Philosophy of Surgery". At the conclusion of the presentation the audience arose and tendered to Dr. Royster an ovation.

The following papers were then read:

"The Modern Trend in Obstetrics", by Dr. Addison C. Page, Des Moines. Discussed by Drs. William L. Allen, Davenport, and Emil C. Junger, the essayist closing the discussion.

"Carcinoma of the Cervix Uteri in Young Women", Dr. Henry J. Heusinkveld, Clinton. Discussed by Dr. William Jepson.

"Benign and Early Malignant Neoplasms of the Mammary Gland", Dr. Donald Macrae, Jr., Council Bluffs. Discussed by Drs. William Jepson; Hubert A. Royster; W. W. Bowen, Fort Dodge, and Charles J. Rowan, Dr. Macrae closing the discussion.

The meeting adjourned at 5:15 o'clock.

Thursday, May 8, Evening

The meeting was called to order at 8:20 by Vice-President Gratiot.

President Oliver J. Fay read his address.

The Guest of Section on Ophthalmology, Otology and Rhinology, Dr. Emil Mayer, New York City, addressed the Society on "The Study of Affections of the Nose and Throat with Special Reference to the Diagnosis of Affections in Other Parts of the Body", with lantern demonstration.

A rising vote of thanks was spontaneously extended to Dr. Mayer for his interesting and instructive presentation.

Friday, May 9, Morning

The meeting was called to order by 9 o'clock by Vice-President Gratiot.

Papers were read as follows:

"Hidden Causes of Sudden Death", Dr. Arthur D. Woods, State Center. Discussed by Drs. Charles H. Magee, Burlington; Merrill M. Myers and Granville N. Ryan, Des Moines, and by the essayist, in closing.

The House of Delegates having adjourned, President Fay presided during the remainder of the meeting.

"Abdominal Emergencies", Dr. John F. Studebaker, Fort Dodge. Discussed by Drs. S. A. Spilman, Ottumwa; Charles Ryan, Charles H. Magee, and Emil C. Junger, Dr. Studebaker closing the discussion.

"Some Points in the Preparation of Material for Laboratory Examination", Dr. Mortimer Herzberg, Sioux City. No discussion.

In presenting Dr. Frank Billings, Chicago, Secretary of the Board of Trustees, American Medical Association, the President said: "Closer co-operation between local and state societies, between state societies and national association—this is essential to scientific advance, and can best be achieved through a better understanding of the relationship and interdependence of these organizations. I am glad that Dr. Billings, famous clinician, beloved teacher, always a pioneer in every movement for scientific advancement, found it possible to come to us as a representative of the American Medical Association, for I know that you are as happy as I am to greet him—as individual and as representative of the American Medical Association, Dr. Billings."

Dr. Billings addressed the Society on "The Work of the American Medical Association, Past, Present and Future" (with lantern demonstration), at the close of which a rising vote of thanks was extended to him.

Dr. Arthur Steindler, Iowa City, read a paper on "Disorders of the Sacro-Lumbar Region" (with lantern demonstration). The paper was discussed by Dr. W. Eugene Wolcott, Des Moines. Dr. Steindler closing the discussion.

President Fay: "This closes our scientific program. But, Mr. Secretary, while I am still president allow me to say that this has been a very wonderful meeting so far as I am concerned, and is an event to which I can always look back with pride, in that, for the first time in the history of the Society, every paper which has been scheduled has been read."

Report of the transactions of the House of Delegates was then presented by the Secretary, as follows:

SUMMARY OF PROCEEDINGS OF THE HOUSE OF DELEGATES

"At the first session of the House of Delegates, which took place May 7, nothing was done except to take up simple matters of a routine nature—the presentation and reception of reports of the officials and of the standing committees of the Society. However, the Chair did appoint a committee of three consisting of President-elect Frank M. Fuller, Thomas A. Burcham, member of Local Arrangement Committee, and M. L. Turner, President of the Polk County Medical Society, whose duty it was to secure a suitable flower tribute and present the same with greetings from the Iowa State Medical Society to the Iowa State Dental Association which was then in session at the Hotel Savery. And the understanding is that when this tribute was presented by the orator of this committee, Dr. Fuller, the roar that went up almost took the tile off the roof. This presentation was a fitting thing for this Society to do, inasmuch as five years ago the Dental Society held its annual session on days practically the same as those on which our meeting was then held, and at that time the dentists presented to this organization a beauti-

ful floral tribute in the shape of a horse-shoe with the happy result our Society has gotten along just remarkably ever since.

At the second day's session of the House of Delegates the Committee on Constitution and By-Laws presented some amendments to the By-Laws of the State Society which were of considerable importance. One had to do with the fact that members of the Society felt an alien living in the United States should not hold an office in the Society; and, secondly, it had been the general feeling on the part of many that members of this Society who associated themselves with cults or who practiced the methods of cults or who counseled with individuals practicing cult methods, should be deemed unworthy of membership in this Society, and evidence to this effect, properly gone over by the Council and substantiated, should be sufficient grounds for their expulsion.

Another amendment was that concerning the work of the Field Activities Committee, and possibly having something to do in a measure with the re-organization of the personnel of that committee. Properly, these proposed amendments were laid on the table for one day.

The Secretary was authorized by the House to send greetings from the Society, in the way of telegrams or letters as well as flowers, to past presidents of this Society who were unavoidably, by illness or otherwise, prevented from being present, namely:

Dr. Edward Hornibrook, Cherokee.

Dr. James T. Priestley, Des Moines.

Dr. James R. Guthrie, Dubuque.

At the session held Friday morning, the House received the report of the nominating committee which was presented by the secretary, Dr. John F. Herrick, whereupon the following officers were elected for the ensuing year:

President-Elect, S. A. Spilman, Ottumwa.

First Vice-President, W. H. Rendleman, Davenport.

Second Vice-President, T. U. McManus, Waterloo.

Secretary, Tom B. Throckmorton, Des Moines.

Treasurer, A. C. Page, Des Moines.

Member Board of Trustees: W. B. Small, Waterloo.

Delegates to the A. M. A., Donald Macrae, Jr., Council Bluffs, and B. L. Eiker, Leon.

Alternate Delegates to the A. M. A., D. N. Loose, Maquoketa, J. F. Herrick, Ottumwa; J. W. Harrison, Guthrie Center.

Councilors Fourth District, Paul E. Gardner, New Hampton; Seventh District, Channing G. Smith, Granger; Eighth District, F. A. Bowman, Leon.

Of the committees, practically the same men were re-elected to hold office during the coming year.

The question of the proposed amendments then came up, and the amendment providing that no one should hold office in the State Society in case he were an alien was accepted.

The question concerning the cults was brought up, and after due consideration the amendment, as before mentioned, with some changes, was unanimously adopted.

Among other things, the House authorized the securing of a man for field secretary to act as an assistant to the Secretary, as business manager of the Journal, and to assist the Field Activities Committee to the end that it might serve in forwarding the interests of the Society. This simply means that we are going to try and put Iowa medicine, as far as the organization is concerned, on a business basis, and we need a full-time man to take care of the details, not only in connection with the Journal, but also in relieving the Secretary of a lot of details, attention to which is impossible on the part of a man who is at the same time trying to practice medicine and raise a family of four boys, as the Editor said. I stated that under such circumstances I would again, to the best of my ability, serve as your secretary.

In conclusion I wish merely to say that this is the best meeting the Society has ever had. It has been a genuine pleasure to have served as Secretary under my esteemed friend and colleague, Oliver J. Fay. He has been of great help to me, first because of his willingness, and, secondly, because he was in position to do some things that other men with whom it was my privilege to work were not able to do for the reason that they lived out of town. Dr. Fay was here, he was on the job twenty-four hours a day if need be; he always decided wisely in my counselings with him, and had nothing but the best interests of this institution at heart in whatever work was undertaken. Therefore, as stated, it has been an extreme pleasure to me to have worked with Dr. Fay during the past year. And I wish to say further that if this Society has accomplished anything, it was not through the efforts of any one individual, but through the united efforts of those who have the best interests of this institution at heart."

President-Elect Frank M. Fuller, Keokuk, was then inducted into office as President of the Iowa State Medical Society.

President Fuller: Members of the Iowa State Medical Society, for a man to stand in this position and claim that he did not feel a thrill of pleasure and of pride, would be trying to deceive himself and to utter something that you know could not possibly be true. The presidency of the Iowa State Medical Society is an honor that any man might well covet. And also any man possessing it might well feel a sense of pride, but with that pride comes a sense of responsibility in that he feels he should serve the interests not only of the medical profession, but of the public at large. I assure you that during the coming year I am going to give the best that is in me of time and of service. I say this with all the more confidence in its being accomplished for the reason that I have to my left the most efficient secretary that serves in any state society in the United States, our friend Tom Throckmorton.

I thank you most earnestly for the honor that you have given me. I trust that at the end of the term you will show to me the same kindly feeling which you evidence towards our very efficient and retiring President, Dr. Fay.

I now take pleasure in presenting to you the President-Elect, a man to whom you need no introduction, Dr. Spilman.

President-Elect Spilman: Mr. President and members of the Iowa State Medical Society—I thank you for this greatest honor of my life. I shall try to do the best I can, and feel that I will have a big job to follow the men who have preceded me.

Upon motion, the meeting adjourned sine die at 12:40.

Tom B. Throckmorton,
Secretary.

Transactions House of Delegates Iowa State Medical Society

**Seventy-Third Annual Session May 7, 8, 9, 1924
Des Moines**

First Meeting, Wednesday, May 7

The House of Delegates met in Room No. 317 Hotel Fort Des Moines and was called to order at 3:30 p. m. by President Fay.

Roll call showed the presence of delegates and officers to the number of 53; members of the Council being in session, to be duly seated later.

The President announcing that a quorum was present, the House then proceeded to the transaction of business.

The minutes of the Friday morning session, held in Ottumwa, having been published in the July, 1923, issue of the Journal, were considered to have been given sufficient publicity, and were accordingly held approved as published.

REPORTS OF OFFICERS

The Secretary, Dr. Tom B. Throckmorton, presented his report which, upon motion duly seconded and carried, was accepted and referred to the Finance Committee.

REPORT OF SECRETARY

**To the Members of the House of Delegates of the
Iowa State Medical Society:**

The following report for the year 1922-23 is respectfully submitted:

The routine duties of your Secretary have been largely confined to those duties prescribed in the By-Laws, yet, as the functioning of the Society has increased and the influence of professional medicine has become more and more extended, many tasks and duties have been taken up in the endeavor to make medicine as a whole, and Iowa medicine in particular, all the better for having had the prestige of a well-established and self-respecting organization behind such an office with which to carry out those ideals cherished by every true son of Aesculapius.

During the past eight years, it has been my privilege to come before this body with an annual report of the work performed in the Secretary's office. Perhaps it may seem rather strange that these several reports, heretofore presented, savor of a like-

ness which, on the surface, would perhaps indicate a tendency to lethargy in State Society matters; yet to the more than casual observer, I am sure, the true accomplishments in Iowa medicine—about which little may have been said—will stand out in bas-relief against the routine and every day tasks, which a Secretary must perchance perform. As a matter of fact—owing to the far-sightedness and wisdom of those who fostered and nourished this Society during its nascent state, and who with diligence and zeal so meticulously cared for the interests of the profession as a whole during the troubled times of the reorganization now some twenty odd years ago—the work of the officary during the past decade and more has been one of a labor of love unhindered and unembarrassed by petty bickerings and jealousies which, so often, have worked to the ruination of men, singly and collectively. Too much credit, therefore, cannot be given those men who carried the burden in the heat of the day and made possible this Society, whose heritage you and I enjoy and with whose keeping the House of Delegates has been entrusted.

As has been repeatedly brought out at the annual conference of the secretaries of the various state societies held at the home office of the American Medical Association, Iowa, as far as medicine is concerned, is extremely favorably situated. A strictly agricultural state by nature, she has no large centers of population with their attendant medical problems due to overcrowding and unhygienic and unsanitary conditions; she has no hamlet so small or so peculiarly situated that its people need suffer for lack of medical care; but she does have an organized medical society in every county which functions to a greater or less extent. The vast majority of the county medical societies are functioning in a manner which is gratifying; in fact in three counties, Adair, Calhoun and Pocahontas, every eligible physician is a member, while in Story county all eligible physicians are members excepting two. Surely these are examples any county medical society may well emulate. A larger number of county medical societies are paid in full to date than in any previous year. And just at this point it may be well to state that the membership of the State Society reached its high watermark in 1923 with a total of 2397. The outlook at present is extremely favorable for the passing of this mark during the coming year.

While a few pleasing incidents have been touched upon, it also becomes my duty to place before this House for its thoughtful consideration some material of a rather unpleasant nature. There yet remains missionary work to be done in some places. During the past year four county societies failed to hold a single meeting—to-wit: Ringgold, Delaware, Humboldt and Clayton. It would seem that an absence of meetings in Ringgold county is inexcusable inasmuch as the councilor of the eighth district, who is also the secretary of the county society, resides within the county whose society is now under consideration. Word from Delaware county conveys

the sad news that no meetings have been held for two or three years; that the last president has not paid his dues; and that in spite of the efforts of the secretary, no members could see their way clear to attend the Seventy-Third Annual Session of the State Society. Humboldt county, with a total membership of four, is in no position to do much else than to hold on by grim death and wait for some one to send out the life-boat to the rescue. Clayton county reports no meetings during the year, while Keokuk county has failed as yet to send in the annual remittance for 1924. The secretaries of two county societies, while cheerfully remitting the dues from their respective members, overlooked the fact that they—as stewards—failed to include moneys for their individual dues. Can criticism of members who fail to pay their dues go unchallenged when officials like these are negligent of their own responsibilities?

While I have touched upon a few of the unpleasant conditions encountered during the past year, I would not have this body feel that I have deliberately and with malice aforethought singled out a few counties at random with the avowed intention of holding them up for ridicule or unjust criticism. Far be it from me to do that. In every one of the counties considered the medical profession of this state is represented by true loyal men. Some of the faults encountered are due to the sin of omission rather than of commission. In some instances, no doubt, local conditions are prevalent which time alone can adjust, but if such conditions are to be read aright, it means that these county societies are entitled to help and constructive criticism rather than censure and indifference on the part of the State Society. It means that more activity should emanate from the councilors in these respective districts, and that the Council as a whole should take more seriously the duties with which it has been so sacredly entrusted. It has long been known to men, and is amply borne out by history, that no reformation comes suddenly; time, patience and perseverance alone, form the tripod upon which rests success and achievement in any undertaking.

And now I hasten to invite your attention to a careful consideration of a problem which, at least from your Secretary's point of view, has been an ever increasing menace and one which I feel savors of potentialities which tend to bring about dissatisfaction and possibly disruption of organized medicine in some parts of the state. The possibilities of the evil were touched upon at the last session; the realities have shown themselves without question during the past year. I refer to the obnoxious and nauseating prevalence of the various cults, now practicing under the guise of humanitarian medicine, whose watch word is "medical freedom" and whose battle-cry is "the God given right of carrying on, without interference, the great work of healing as practiced by our Lord and Savior, Jesus Christ". In a number of instances letters were received from members who sought counsel concerning the advisability of the retention of their membership in the

county and State Society or of dropping out entirely, due to the fact that members in power and officials in their society were associated with persons practicing the methods of cult medicine or were themselves flagrantly operating the latest buncombe, the electronic reactions of Abrams, now since called to his well deserved reward.

It is only natural that any true physician should resent being associated with those who pursue the methods of a left-handed practitioner, and the criticism that a county, a state, and even a national medical society should harbor and silently countenance such individuals pursuing such illegitimate practices and outwardly at least giving them a cloak of respectability, seems to me to be unassailable and indefensible. I would accordingly recommend to the committee on Constitution and By-Laws, of which I am privileged to be a member, that it consider ways and means whereby changes in the By-Laws can be so brought about as to render retention of, or admission into, membership of the State Society impossible by those who under the garb of organized medicine would pollute the pure stream of conscientious and scientific practice by the foul and noxious dregs of a purely commercial and unscientific method of practice. There is nothing so trying to a physician—who to the best of his ability, is endeavoring to follow the oath of Hippocrates and the standard of legalized and scientific medicine—than to be compelled to swallow his pride, as it were, in order to maintain his membership in organized medicine and at the same time see some one else who is unworthy of membership enjoying the same privilege as he. I fully believe if some effective method is devised whereby we can purge from our ranks those who are unworthy of the privilege afforded by organized medicine, and can also nullify the recruiting of those who seek admission for respectability's sake alone, much will be accomplished in bringing about harmonious conditions among the rank and file of those who make up the membership of the various component county medical societies and at the same time such action will remove from the fair escutcheon of our State Society the blot of a tarnished membership.

And now, in conclusion, allow me to take this means of thanking you, as members of the House of Delegates, for the great honor which has thrice been given me at your hands. During the past eight years I have tried to serve the Iowa State Medical Society to the very best of my ability. In some instances I may have fallen far short of the mark. If so, I trust that my faults will be inscribed in the sands of the sea soon to be forever erased. To me it has been a genuine labor of love to have served Iowa medicine in my small feeble way. I trust that some good, at least, has been accomplished during my tenure of office.

Other matters in which the office of Secretary has been active are reported to the House of Delegates from other sources.

FINANCIAL STATEMENT
May 1, 1923 to April 30, 1924

Receipts

Dues, 1922	\$ 35.00	
Dues, 1923	1,699.00	
Dues, 1924	10,674.00	
Advertising	8,048.35	
Honorarium—A. M. A. Advertising Bureau	263.80	
Reprints	905.12	
Subscriptions—non-members	104.45	
Sales	21.30	
Engravings	95.50	
Arrangement Committee Ottumwa Meeting	94.73	\$21,941.25

Disbursements

Commission and Discount to Advertising Bureau	\$ 1,097.45	
Dr. A. C. Page, Treasurer.....	20,843.80	\$21,941.25

Tom B. Throckmorton,
Secretary.

The Secretary moved that the Chair appoint a committee of three, whose duty it would be to secure a suitable floral tribute and to present the tribute, with greetings, from the Iowa State Medical Society to the Iowa Dental Association now in session at the Hotel Savery. The motion being duly seconded, was unanimously carried. After which, President Fay appointed the following to act upon this committee: Dr. F. M. Fuller, Dr. T. A. Burcham and Dr. M. L. Turner.

At this juncture the Council, as a body, entered, and the calling of the roll was completed.

REPORT OF THE TREASURER

Dr. A. C. Page, Treasurer, read his annual report, which, upon motion duly seconded and carried, was accepted and referred to the Finance Committee.

The report follows:

Balance Sheet as of April 30, 1924

Total Investments as of April 30, 1923.....	\$33,941.44	
Received from Secretary.....	20,843.80	
Interest on Investments—		
Liberty Bonds	\$ 1,211.25	
School Bonds	100.00	
Morris Plan Bank.....	370.38	
People's Savings Bank.....	260.03	1,941.66
Total		\$56,726.90
Society and Journal Expenses.....\$17,272.19		
Field Activities Committee..... 2,588.67	\$19,860.86	
Total Investments as of April 30, 1924.....	\$36,866.04	\$56,726.90
Total Investments as of April 30, 1924.....	\$36,866.04	
Total Investments as of April 30, 1923.....	33,941.44	
Net Profit for Fiscal Year Ended April 30, 1924		\$ 2,924.60

Assets

Liberty Bonds (face value \$25,000.00).....	\$23,682.37	
School Bonds (face value \$2,000).....	1,909.16	
People's Savings Bank—		
Time Deposit Account.....	8,844.85	
Checking Account	2,429.66	\$36,866.04

Dr. A. C. Page,
Treasurer Iowa State Medical Society.

Audit of the Treasurer's books gives the above mentioned facts relative to the financial standing of the Society. The verification of the above securities is covered in the following certificate furnished by the People's Savings Bank.

Carl W. Mesmer, Asst. Cashier.
People's Savings Bank.

Des Moines, Iowa, May 3, 1924.

W. Widdup & Company Certified Accountants,
815 Bankers Trust Building,
Des Moines, Iowa.

I am pleased to advise you that the Iowa State Medical Society, Dr. A. C. Page, Treasurer, had to their credit on April 30, 1924, \$2,429.66 in checking account, and \$8,844.85 in savings account, and that we are holding in safe keeping securities as follows: Second 4¼ Liberty Bonds in the amount of \$12,000; Fourth 4¼ Liberty Bonds in the amount of \$13,000; Consolidated Independent School District of Meriden School Building Bonds, \$2,000.

Yours truly, W. Widdup & Co.

Respectfully submitted,
Addison C. Page,
Treasurer.

REPORT OF THE COUNCIL

The report of the Council was presented by the Chairman, Dr. Paul E. Gardner, New Hampton. Upon motion duly seconded and carried, the report was accepted.

The report follows:

First District—Dr. R. S. Reimers, Fort Madison, absent. No report.

Second District—Dr. D. N. Loose, Maquoketa. Most of the county societies hold meetings at stated times; six counties in the district; estimated 95 per cent of the eligible physicians are members; 25 per cent average attendance.

Third District—Dr. A. G. Shellito, Independence. General conditions in district are good.

Fourth District—Dr. Paul E. Gardner, New Hampton. Ten county societies in the district, visited five societies, all holding regular meetings and present scientific programs.

Fifth District—Dr. G. E. Crawford, Cedar Rapids. Seven county societies, all holding regular meetings; nearly all eligible men are members of the society; Linn County Medical Society and Marshall County Medical Society have exceptionally good meetings; no friction in this district; three deaths during the year.

Sixth District—Dr. S. T. Gray, Albia. Six counties in the district all of which have active county medical societies and hold regular meetings, with most of the eligible men members of the society.

Seventh District—Dr. Channing G. Smith, Granger. Seven county societies in the district, all but one holding regular meetings; one meeting upon call of the president; about 90 per cent of the eligible men

are members; one complaint which was satisfactorily settled; programs of meetings very good.

Eighth District—Dr. Samuel Bailey, Mt. Ayr. Eleven counties in the district each having a county medical society holding regular meetings with good programs. Three of the counties have extra fine societies; 90 per cent eligible men are society members.

Ninth District—Dr. H. B. Jennings, Council Bluffs. Nine counties in this district reporting as follows:

Adair—Population 15,000, all the eligible men, ten, are members of the county society which meets once a year.

Audubon—Population 12,000; eleven eligible men are all members; no regular time of meeting.

Cass—Population 19,421; the meetings are held regularly and well attended.

Dallas-Guthrie—A combination of one county from the seventh district and one county from the ninth district, with a large membership holding regular meetings.

Harrison—Population 25,000; twenty members of the society with thirty-five eligible for membership who are not members; no regular meetings held, but meet once in two or three months.

Mills—No response from secretary.

Montgomery—Population 17,000; all eligible physicians are members of the society which meets once a year.

Pottawattamie—Population 64,000; county society membership of sixty with thirteen eligibles who are not members; meets three times a year, two of the meetings being clinical meetings are held at one of the hospitals with a large attendance.

Shelby—Population 17,000; small membership with five eligibles who are not members; no regular meeting time.

As many of the county medical societies have no regular time for meeting, some holding no meetings, it is impossible for a Councilor to meet with the society. It is my opinion that some of the smaller county societies should combine and, as a result, both the membership and interest in the county and State Medical Society would be increased.

Tenth District—Dr. W. W. Beam, Rolfe. Thirteen county medical societies in the district, eleven of which are active, holding regular meetings; Humboldt County Society has no regular meeting time, and I would recommend that this county join with some other county; the general interest is good; no friction in this district; 96 per cent of the eligible men are members.

Eleventh District—Dr. G. C. Moorehead, Ida Grove. The first county visited was Sac which had not been holding meetings but once a year; a meeting was called for July to be held at Sac City, which I attended; there was a good attendance and an interest in society matters awakened, later they united in a meeting with the Twin Lake District Society.

The Monona County Medical Society has become

inactive. I visited two towns in this county conferring with members. Woodbury has made overtures to Monona and there will possibly be a union of these county societies making an unusually strong county society.

A district society composed of Plymouth, Cherokee, Buena Vista and Ida counties has been organized which promises to be of special interest.

The North-West Iowa Medical Society is composed of Lyon, Osceola, Sioux and O'Brien counties. This society was organized a number of years ago, holds spring and fall meetings which are always well attended, and is one of the best district societies in Iowa.

This leaves but two counties, Dickinson and Clay, not associated with other counties. I have visited all of the societies but three, in the district during the year.

The association of two or more counties in society work gives promise of a solution to the inactive county organization. I am optimistic regarding these district societies and believe much good will come from them.

The tendency is for our physicians to equip their offices with expensive electrical apparatus. I know of one town with a population of about 2000, with six x-ray machines. This elaborate equipment of offices is not free from danger. The cost of equipping offices is rapidly increasing, demanding from the physician ever increasing activities to meet expenses and making serious inroads upon the time he should have to devote to study and careful examination of patients.

During the winter, the Secretary of our State Society wrote me asking if I could find a place for a German physician who wanted to come to America. There may be a shortage of physicians in other parts of Iowa but none in the Eleventh District.

The Council recommends that the secretaries of county medical societies be requested to place their Councilor's name on their mailing list thus notifying him of the date and place of their county society meeting.

Paul E. Gardner,
Chairman.

No report from Board of Trustees.

REPORT OF MEDICO-LEGAL COMMITTEE

Dr. D. S. Fairchild, Chairman, presented the report of the Medico-Legal Committee, which, upon motion, duly seconded and carried, was accepted.

The report follows:

Cases Coming Before the Committee

April 1, 1923 to April 1, 1924

New cases sued.....	14
Cases revived from former years.....	4
Threatened with suit, not filed.....	3

Nature of Cases

Miscellaneous Malpractice	89
Fractures	101

X-Ray Burns	10
Cases in which Malpractice was alleged in counter claim.....	10
Operation on certain parts without consent.....	1
Breach of Contract.....	6
Fracture humerus and paralysis ulner nerve.....	2
Dislocation Humerus	1
Operation on Mastoid, Paralysis of facial nerve.....	1
Fracture Femur	2
Fracture Clavicle	1
Colles Fracture	1
Fracture Tibia and Fibula.....	1
X-Ray Burns	2
Death from Anesthesia.....	1

Referring to the question of judgments and settlements, I desire to call attention to a supplementary report published in the December, 1923, number of the Journal.

Forty-eight cases have been tried, resulting in a final judgment for the defendant, only four verdicts rendered against defendants have been paid, and these four aggregate \$1,400. One verdict of \$2,800 was rendered before we entered this work and we appeared only before the supreme court on appeal.

One verdict of \$6,000 was rendered against a defendant and at the time of this report was pending on appeal. One verdict of \$750 has never been paid.

One verdict for \$3,500 was reversed on appeal on grounds that render it impossible to try it again.

One verdict of \$1,100 was reversed on appeal, so that only \$1,400 has been paid that we have tried.

Twenty-nine cases have been settled, aggregating \$11,433, one for \$2,500 and one for \$1,350. The other amounts were small and some of them were amounts subtracted from the claim of the plaintiff in cases where the plaintiff had brought suit for his bill and a counter claim was filed for malpractice. In these cases sometimes the doctor accepted a less amount for his bill in consideration of the dismissal of the counter claim.

Malpractice Cases Pending at Date of Last Report and Since Disposed of

Case No. 1. This case was begun in the Jasper County District Court, in April, 1921, claiming damages in the sum of \$20,000, in negligence in performing an operation for appendicitis. The case was several times noted for trial, but finally dismissed by the plaintiff at his cost, and finally disposed of.

Case No. 2. This action was begun in the Jasper County District Court in 1921, based on the same facts as the preceding case. One of the defendants being a surgeon and the other physician. It was noted for trial several times, but finally dismissed by the plaintiff, at his cost, and finally disposed of.

Case No. 3. This case was brought in the Cerro Gordo County District Court and was tried and a verdict directed for the defendant on May 16, 1923. The plaintiff has not appealed and the case is finally disposed of.

Case No. 4. This action was begun in the Delaware County District Court, December, 1921, claiming \$5,000 damages, for negligence in the treatment of the fracture of the femur of a child. Case was dismissed at plaintiff's cost, and finally disposed of.

Case No. 5. This case was assigned for trial several times, but was finally disposed of and dismissed by the plaintiff at her cost.

Case No. 6. This case was tried in the Poweshiek County District Court, September, 1922, and verdict directed for defendant. Plaintiff appealed the case to the supreme court. In an opinion handed down on January 15, 1924, and reported in volume 196 of the Northwestern Reporter, at page 716, and the case is finally disposed of.

Case No. 7. This case involved the treatment by the defendant of the plaintiff for tumor of the intestine by means of x-ray. The patient received a burn, was subsequently operated upon by other physicians in Hampton, and a short time thereafter died. The suit was brought on the theory that the death was produced by a thrombosis of the middle cerebral artery caused by the x-ray burn. Because of a local feud among the doctors of the county, much interest attached to the case, and it was bitterly contested. At the conclusion of an eight days' trial the jury returned a verdict for the plaintiff for one dollar. The verdict has been paid and accepted by the plaintiff, and the case is finally disposed of.

Case No. 8. This case was begun for the September term, 1922, of the District Court of Jefferson county. Damages were claimed in the sum of \$10,000 for alleged negligence in the treatment of plaintiff's broken arm. Following a verdict for the defendant in the case of Daugherty vs. Fordyce, and the plaintiff in this case being represented by the same counsel, the Donegan case was dismissed at plaintiff's cost and finally disposed of.

Case No. 9. This action was begun in 1922, in the District Court of Polk County. It was assigned for trial and just before the trial we made an adjustment of it by the payment of \$200. The amount was paid by Commercial Insurance Company, who had written indemnity insurance.

Case No. 10. This action was begun for the November, 1922 term of the District Court of Linn County. Damages were claimed in the sum of \$5,000 for alleged malpractice in the electric treatment of plaintiff who was suffering from shingles. The case was finally dismissed by the plaintiff, at her cost, and may be considered as finally disposed of.

Attorneys' Fees April, 1923 to April, 1924

Dutcher & McClain—	
First Quarter	\$1,205.87
Second Quarter	813.25
Third Quarter	888.46
Fourth Quarter	585.10
	\$3,492.68
Local Attorneys	
Starr & Jordan.....	\$ 26.00
A. J. Shaw.....	50.00
Kelleher & Mitchell.....	100.00
Steele & Miles.....	50.00
	\$ 226.00
	\$3,492.68
	\$3,718.68

Condensed Report of Cases Against Members of the Iowa State Medical Society, 1923-1924

To Dr. D. S. Fairchild, Dr. H. B. Jennings and Dr.

Lewis Schooler, Medical Defense Committee:

Gentlemen:

We have submitted full report upon all cases pending at the date of our last report and also of cases commenced since that date. The following is a summary of certain particulars in all cases commenced since the establishment of the Medical Defense Committee of the Society.

Cases commenced since organization of department.....	226
Cases commenced prior to the report of 1909.....	15
Cases commenced during 1909-1910.....	13
Cases commenced during 1910-1911.....	10
Cases commenced during 1911-1912.....	14
Cases commenced during 1912-1913.....	13
Cases commenced during 1913-1914.....	10
Cases commenced during 1914-1915.....	24
Cases commenced during 1915-1916.....	19
Cases commenced during 1916-1917.....	17
Cases commenced during 1917-1918.....	13
Cases commenced during 1918-1919.....	14
Cases commenced during 1919-1920.....	7
Cases commenced during 1920-1921.....	12
Cases commenced during 1921-1922.....	13
Cases commenced during 1922-1923.....	18
Cases commenced during 1923-1924.....	14
Cases pending at date of 1909 report.....	7
Cases pending at date of 1910 report.....	10
Cases pending at date of 1911 report.....	14
Cases pending at date of 1912 report.....	25
Cases pending at date of 1913 report.....	26
Cases pending at date of 1914 report.....	21
Cases pending at date of 1915 report.....	28
Cases pending at date of 1916 report.....	33
Cases pending at date of 1917 report.....	33
Cases pending at date of 1918 report.....	29
Cases pending at date of 1919 report.....	29
Cases pending at date of 1920 report.....	26
Cases pending at date of 1921 report.....	30
Cases pending at date of 1922 report.....	26
Cases pending at date of 1923 report.....	33
Cases now pending.....	37
Total cases disposed of.....	194

Nature of Cases

Malpractice in removing seed wart.....	1
Malpractice in not discovering and uniting severed ligaments of the wrist.....	1
Alleged assault.....	2
Removal of cancer of the hand.....	1
Conspiracy to have plaintiff declared insane.....	2
Fracture of the arm.....	33
Fracture of leg or femur.....	55
Appendicitis—sponge case.....	2
Caesarian operation—sponge case.....	1
Cancer of breast—sponge case.....	1
Womb operation—sponge case.....	1
Operation for kidney—sponge case.....	1
Appendicitis, malpractice in operation.....	5
Appendicitis—exploratory opening.....	1
Childbirth, alleged failure to attend after alleged agreement to do so; child died (separate actions by father and mother).....	2
Libel for testifying patient was insane.....	1
Hand crushed, alleged improper treatment.....	1
Failure to discover sub-caracoid dislocation of shoulder joint.....	1
Hand lacerated, alleged improper treatment.....	1
Ear, alleged improper treatment.....	2
Eye, alleged improper treatment.....	1
Infection, childbirth.....	2
Medical treatment of child.....	1
Abortion, improper after-treatment.....	3

Abortion, without justification.....	2
Improper treatment of nail puncture in foot.....	1
Alleged removal of wrong kidney.....	1
Stomach trouble, alleged improper treatment and failure to treat.....	1
Anesthetic, death under.....	2
Improper diagnosis of diphtheria.....	1
Improper diagnosis of broken ribs.....	1
Removal of uterus, alleged negligent incision of the bladder.....	1
X-ray burn.....	8
Infection following amputation.....	1
Alleged improper treatment of scald.....	1
Removal of adenoids.....	2
Alleged improper abdominal incision.....	3
Failure to administer serum, patient died of lockjaw.....	1
Fracture of collar bone.....	3
Willful insertion of instrument, producing abortion.....	1
Operation for pregnancy of fallopian tube.....	1
Negligence in administration of poison, causing death.....	1
Improper treatment of wound in leg from kick of horse.....	1
Alleged negligence in communicating erysipelas to woman in childbirth.....	1
Negligence in suffering patient mentally delinquent to jump out of unguarded window in private sanatorium.....	1
Negligent amputation of finger.....	3
Negligence in attending and severing cords of hand.....	1
Wrongfully administering morphine.....	1
Communicating small-pox to patient in hospital.....	1
Fracture of lower jaw.....	1
Dislocation of knee.....	1
Cancer of stomach.....	1
Draining pelvic abscess.....	1
Operation for tonsils without consent.....	2
Negligent incision into intestine—ovarian tumor.....	1
Negligent diagnosis and treatment of pus in abdomen.....	1
Negligent treatment of infected jaw.....	1
Negligent treatment of infected antrum.....	1
Negligence in removing button from child's throat.....	1
Hot water bottle burn.....	2
Failure to discover fractured vertebrae.....	1
Improper treatment of vaginal infection.....	2
Improper treatment of inflammatory rheumatism.....	2
Negligent removal of tonsils.....	4
Negligent treatment of gunshot wound.....	2
Negligent treatment of abscess of bladder.....	2
Negligent treatment of abscess under arm.....	1
Wrong diagnosis of sprain of ankle.....	1
Failure to properly tie umbilical cord.....	1
Failure to discover fracture of ilium.....	1
Exposing patient to scarlet fever by wrong diagnosis.....	1
Improper treatment of insect bites.....	1
Negligent treatment of fractured finger.....	2
Improper treatment of fractured foot.....	1
Paralysis of facial nerves in mastoid operation.....	1
Failure to diagnose abscess of kidney.....	1
Malpractice—childbirth.....	1
Malpractice, diagnosing and treating typhoid fever.....	1
Malpractice, kidney irrigations.....	1
Malpractice, infection following injection for piles.....	1
Malpractice, childbirth, born dead.....	1
Malpractice, infection following operation for hernia resulting in death.....	1
Malpractice, alleged arsenic poisoning from medicine prescribed.....	1
Malpractice, electrical treatment for shingles.....	1
Malpractice, treatment pulmonary abscess.....	1
Malpractice, fracture of foot.....	1
Improper treatment of ligaments of wrist.....	1
Negligence in tying patient in bed, resulting in gangrene and amputation of leg.....	1
Exploratory opening for diagnostic purposes, negligence in exposing person, resulting in death of child.....	1
Negligent burn by radium.....	2
Negligent treatment, dislocated shoulder.....	1
Syphilis.....	1

Total amount of damages claimed in all cases to date.....\$2,419,679.00

Judgments recovered against members	9
Aggregate amount of judgments.....	\$ 15,476.00
Consultations on cases threatened in which no proceedings were had.....	116
Respectfully submitted,	
Dutcher & McClain.	

Iowa City, Iowa, May 3, 1924.

No report from Public Policy and Legislative Committee.

No report from Constitution and By-Laws Committee.

REPORT OF PUBLICATION COMMITTEE

The report of the Publication Committee was presented by Dr. D. S. Fairchild, Editor and Chairman, which, upon motion duly seconded and carried, was accepted.

The report follows:

The Secretary of the Iowa State Medical Society in his report has included all that may be said concerning the financial side of the Journal. His report shows that we are well within our income, notwithstanding an increase from sixty-four pages a month to about eighty pages or more a month.

We are watching for an opportunity to increase from eighty-four to eighty-eight pages. This increase is contingent on the generosity of the Board of Trustees. We have some assurance that when the Field Activities Committee pay us what they have borrowed during the last two years, we may enlarge the Journal.

We are publishing nine original papers in each issue, four State Society papers, one Austin Flint-Cedar Valley paper, two Tri-State papers, one special paper read before local society meetings and one private contribution. In other words, four State Society, two Tri-State Society and three other papers, the distribution depending on the length of papers and space.

We are pleased to note the increasing activity of local societies, and in the line of encouragement we would like to publish their papers with less delay.

We desire to call attention to an important fact concerning the State Society papers. The delay in sending the revised copy of discussions has been the source of considerable embarrassment and has made it impossible to print the papers in any order. The papers do not reach the Editor until all the discussions are in, sometimes six months pass before the paper is complete.

There has been a decided improvement in the last few years in the preparation of papers for publication. When papers are to be presented before a society, they should be typewritten double-spaced. Sometimes it is impossible to determine the origin of the paper and we have a few papers without names of the author. It would be an easy matter to write on a slip of paper announcing the title of the paper, the name of the writer, and, if a society paper, the name of the society and the date paper was read.

It is to be regretted that many local societies elect secretaries who are so busy that they are not able to furnish us with a report of their meetings and we are dependent upon newspaper clippings, which are not altogether reliable, and we are much troubled to determine the date of the meeting.

Dr. Tom B. Throckmorton, Business Manager of the Journal, gave a supplementary report showing the receipts and disbursements of the Journal for the calendar year of 1923.

The report follows:

JOURNAL STATEMENT

January 1, 1923 to December 31, 1923

Income	
Advertising	\$ 7,890.22
Reprints	932.59
Subscriptions, non-members	100.30
Sales	30.25
Honorarium—Advertising Bureau A. M. A.	263.63
Subscriptions 2380 1923 members at \$2.....	4,760.00
Subscriptions 11 1922 members at \$2.....	44.03
Subscriptions 2 1921 members.....	2.00
	\$14,001.16
Expense	
Printing—	
2-68 page Journals.....	\$ 969.90
5-72 page Journals.....	2,466.00
1-76 page Journal	533.15
1-80 page Journal	551.10
1-84 page Journal	595.10
1-92 page Journal	707.00
1-96 page Journal	657.65
	\$ 6,479.96
Engravings	\$ 148.58
Reprints	661.95
Commission and Discount.....	1,027.87
News Service	60.00
Second class postage and city delivery.....	177.11
Postage and telegrams.....	60.83
Office rent and telephone.....	189.40
Supplies, business office and editor.....	75.25
Trustees meeting (Journal's share).....	60.42
Bond Secretary and Treasurer (Journal share)	43.75
Editor's secretary	60.00
Business office assistant.....	720.00
Editor's salary	1,500.00
Journal wrappers	81.75
	\$11,346.81
Gain	\$ 2,654.35
	\$14,001.16

Tom B. Throckmorton,
Business Manager.

REPORT OF THE MEDICAL LIBRARY COMMITTEE

The report of the Medical Library Committee was read by Dr. D. S. Fairchild, Chairman of the Committee; and upon motion, duly seconded and carried, the report was accepted.

The report follows:

The report of the Medical Library Committee has been prepared by Miss Frances B. van Zandt, Medi-

cal Librarian, who presents the following statistics for the fiscal year 1923-1924.

Out of Des Moines Calls	Books Loaned	Des Moines Calls	Books Loaned	Visitors	Tel. Calls
685	1822	1194	1844	1244	272

Bibliographies prepared, eighty-four.
The following comparative statistics show the extent of the growth of the patronage of the Medical Library:

	Out of Des Moines Calls	Books Loaned	Des Moines Calls	Books Loaned	Visitors	Tel. Calls
June, 1922.....	3	23	71	68	71	8
October, 1923.....	40	97	98	149	98	33
March, 1924.....	73	169	115	282	129	43

REPORT OF THE FIELD ACTIVITIES
COMMITTEE

The report of the Field Activities Committee was presented by Dr. W. L. Bierring, Chairman of the Committee. Upon motion, duly seconded and carried, the report was accepted.
The report follows:

Receipts

July 7, 1923—Received from Board of Trustees.....	\$ 784.00
January 1, 1924—Received from outside sources.....	28.77
March 8, 1924—Received from Board of Trustees.....	201.00
	<hr/>
	\$1,013.77

Disbursements

August 2, 1923—Rent, clerical help, supplies, traveling expense	\$ 552.46
November 12, 1923—Rent, clerical help, supplies, traveling expense	175.00
November 12, 1923—Traveling expense Dr. D. J. Glomset, to address meeting Northwestern Iowa Medical Society, Sheldon, Iowa.....	25.00
May 1, 1924—Rent, clerical help, supplies, traveling expense	196.84
	<hr/>
	\$ 971.55
Balance on Hand.....	\$ 42.22
	<hr/>
	\$ 1,013.77

All of the above bills submitted to and approved by the Board of Trustees of the Society..

In addition to the above, several payments were made direct to the Director, Dr. F. E. Sampson, by the Board of Trustees amounting to \$1,096.28, making a total appropriation to the Committee on Field Activities for the year ending May 1, 1924 of \$2,081.28.

The Committee has now been in operation during the past two years. An appropriation not exceeding \$7,500 annually was set aside for its use, subject to the approval of the Board of Trustees. During the first year the expenditures totaled about \$5,500, while during the past year they were as stated above \$2,081.28, or about one-half of the proposed appropriation for the two years.

During the past year there have been a lesser number of personal visits made to county societies by the director, secretary and other members of the committee, but a greater effort has been made to develop avenues of publicity already established as

well as newer means of field activity directly from the office of the Secretary.

While this plan has been carried on under less expenditure of money, and has accomplished some remarkable results, it is by no means as satisfactory and effective as the personal contact of a visit and a direct appeal from our stimulating director.

Where the principal purpose of any movement or co-ordinated activity is to develop a sentiment, it is always difficult to properly estimate the results within any given period of time.

Those of us who are deeply interested and have been intimately associated with the work of the committee feel that definite progress has been made, and yet when detailed for your information it may not impress you in the same way.

During the year the director, Doctor Sampson, visited thirty-four county societies, the secretary, Mr. T. J. Edmonds, visited seven more, and by adding some selected visits by other members of the committee, more than half the counties in the state were covered. Judging from the many letters of appreciation received from all over the state, we have reason to believe that there has resulted a lasting impression of renewed activity and endeavor on the part of doctors to contribute a better medical service to their communities.

The four days session of the Tri-State Medical Society in Des Moines, October 29 to November 1, 1923, helped to place the city and state on the medical map, and the widespread publicity through the associated press and other means was entirely due to the fact that this organization and the services of its secretary were available. The achievements of scientific medicine were never more prominently impressed upon the lay reader, and this publicity in the Iowa papers placed medicine in the right light, helped the profession generally, and by comparison was a distinct discredit to the different cult practitioners.

Through the activities of this committee, arrangements were made with the University of Iowa so that the Sheppard-Towner clinics were planned with advance knowledge and consent of county medical societies, the interest of the family physician has been safeguarded, and the beneficent purpose of this new movement has been properly controlled.

The work of the Legislative Committee aside from that done by the Chairman, Dr. W. W. Pearson, was carried on entirely through the office of the Field Activities Committee. You may not be altogether satisfied with the medical legislation enacted by the last General Assembly, but we beg to remind you that the "wheels of the gods grind slowly". A favorable sentiment to scientific medicine is gradually being created, but it still requires much persistent effort to educate the public as to the need of properly trained doctors. Furthermore, it is becoming more and more evident that the medical profession is now recognized in legislative circles as a conservative, worthy and influential force, whose opinion is often voluntarily sought by members of

the General Assembly. In fact, the legislator and the average enlightened citizen is manifesting a better spirit of cooperation than the individual members in our ranks, for surely they need educating more often than the layman.

As stated a year ago, the committee has promoted a publicity of the ideals of the State Society and the profession as a whole, such as it has not had before in all its existence.

The fact that this idea of unique progressiveness and public spirit of the Iowa State Medical Society has been centralized in definitely organized form through this committee is, in itself, a distinct and creditable accomplishment.

In regard to future plans the committee is convinced that the wisdom of establishing the Field Activities Committee has been fully justified, and that it has a great field for usefulness in promoting the best interests of the State Society, particularly as regards its relations to the public.

We recognize the great services that have been rendered by Dr. F. E. Sampson, the prime mover and first director, but we do not feel that it is right to ask him to sacrifice his private interests to the extent that he has done in the past. In considering some one to take his place, we beg you to remember that the requirements call for a person of rather unusual qualifications. He should be thoroughly imbued in the ideals of scientific medicine, yet at the same time have editorial ability as well as the rare quality of personal touch in order to coordinate the various interests that are concerned with human welfare in our state. You must be prepared for an outlay of at least \$5,000 in order to secure the right person, and this with the necessary office and traveling expense, will easily bring the amount up to the limit of \$7,500, which you have set aside for this purpose.

When we consider the large sums of money that are appropriated by the cultists and the organized front that they present whenever their interests are in danger, there should be little hesitancy in providing for the additional outlay, especially when we remember the important issues that are involved.

Respectfully submitted,

Walter L. Bierring, Chairman,
B. L. Eiker,
N. G. Alcock,
Rodney Fagen,
J. F. Edwards,
T. J. Edmonds,

Committee.

No report from Delegates to the A. M. A.

The Secretary made an announcement relative to the duties of the Nominating Committee, quoting from Chapter 5, Section 2 of the By-Laws, concerning instructions as to the manner of the selection of nominees for the various offices and vacancies on committees.

Upon motion the meeting adjourned at 5 p. m. to meet at 8 a. m., Thursday morning.

The delegates from the various congressional districts then assembled to select a member from their respective districts to act as members of the Nominating Committee.

The committee reported was:

First District—C. A. Boice, Washington.
Second District—A. P. Donohoe, Davenport.
Third District—W. L. Hearst, Cedar Falls.
Fourth District—R. L. Whitley, Osage.
Fifth District—A. D. Woods, State Center.
Sixth District—J. F. Herrick, Ottumwa.
Seventh District—M. N. Voldeng, Woodward.
Eighth District—B. S. Walker, Corydon.
Ninth District—J. A. Biscard, Harlan.
Tenth District—D. J. Townsend, Lohrville.
Eleventh District—George Donohoe, Cherokee.
M. N. Voldeng, Chairman,
J. F. Herrick, Secretary.

Second Meeting, Thursday, May 8, 1924

The House of Delegates met in Room 331 Hotel Fort Des Moines, and was called to order at 8 a. m. by President Fay.

Roll call showed the presence of twelve officers and thirty-seven delegates, total of forty-nine.

The President announcing that a quorum was present, the House proceeded to the transaction of business.

REPORT OF THE BOARD OF TRUSTEES

The report of the Board of Trustees was presented by Dr. J. W. Cokenower, Chairman of that body. Upon motion, duly seconded and carried, the report was accepted.

The report follows:

Trustees Report

The reports of our Secretary and Treasurer show our finances in good condition. While many other state medical societies have been compelled to increase their members' annual dues, we have not found it necessary.

However, the following figures speak for themselves and likewise suggest the future business plan in the management of our finances.

Our receipts in 1921, above all expenses, were \$5,761. In 1922, our receipts, above all expenses were \$2,326. In 1923, our receipts were \$20,408, and yet we ran behind \$610; and in 1924, our income is \$2,924 above all expenses for the year.

There were several reasons for our deficit, but only one, assisted by our annual dues for overcoming the amount, and that was the activity of the business management of our Journal and the cooperation of our Editor.

Your Board of Trustees has endeavored to conduct your Society's finances on strictly business principles, and enlarged the Journal as needed in

order that our business department and Editor might have all the space needed, thus making our Journal more attractive to advertisers and the reading public.

Our Society has been fortunate, indeed, in the past few years, even in the face of general adverse financial conditions, in putting our finances in good condition, with about \$36,000 in our treasury.

However, it is not the purpose of your board to accumulate money for our Society, only so far as a safe working capital, but to use it judiciously in any way the House of Delegates sees proper to have it used, to the end of doing the most good to our members and the general public.

Your Board of Trustees begs leave to submit the following report as of May 1, 1924:

U. S. Liberty Bonds, 2nd, 4¼th's (face value).....	\$12,000.00
U. S. Liberty Bonds, 4th, 4¼th's (face value).....	13,000.00
School Bonds, Meriden, Iowa, 5% (face value).....	2,000.00
Bank, time deposit, 4%.....	8,844.85
Bank, checking account.....	2,429.66
Total.....	\$38,274.51
Treasurer's Bond.....	\$35,000.00
Secretary's Bond.....	5,000.00

Respectfully submitted,
J. W. Cokenower,
T. E. Powers,
W. B. Small,
Committee.

No report from Public Policy and Legislative Committee.

No report from Constitution and By-Laws Committee.

No report from Delegate to the A. M. A.

MEMORIALS AND COMMUNICATIONS

The Secretary read the following communication from Dr. Franklin Martin, Chairman of the Gorgas Memorial Fund:

Gorgas Memorial Institute of Tropical and Preventive Medicine

Chicago, April 25, 1924.

Dr. T. B. Throckmorton,
Des Moines, Iowa.

My Dear Doctor Throckmorton:

You are undoubtedly aware that our plan to memorialize William Crawford Gorgas was endorsed by the House of Delegates of the American Medical Association at its meeting in San Francisco last year.

Our Iowa Governing Committee is now being organized and in order that the profession in your state may be informed regarding our program and its purposes, I am writing to ask that you have the matter brought before the Iowa State Medical Society at its forthcoming meeting in May, and, in the name of the Board of Directors of the Gorgas Memorial, request

that the Society as a body, endorse this movement.

We are attempting to perform a big task with the least possible expense and with our very limited field organization, must depend upon our friends for assistance and cooperation. You can appreciate how greatly the endorsement of the state organization will facilitate our organization work.

Your cooperation in getting the Gorgas Memorial before the Iowa State Medical Society will be greatly appreciated by my associates and myself.

Cordially yours,
Franklin Martin, M.D.,
Chrm. Board of Directors.

WHEREAS—The life and achievements of the late William Crawford Gorgas have been to our members an inspiration to service for humanity, and

WHEREAS—The Gorgas Memorial Institute contemplates the establishment in his memory of a living working memorial in the form of:

- (A) A Research Institute at Panama, for the study, prevention and cure of tropical diseases, and
- (B) The development of a national campaign under the supervision of the scientific medical profession for the purpose of improving and protecting the health of people everywhere.

THEREFORE BE IT RESOLVED, in consideration of these facts, the Iowa State Medical Society, assembled at its annual convention at Des Moines, May 7, 8 and 9, 1924, hereby heartily endorses the plan to memorialize William Crawford Gorgas, in the manner contemplated by the Gorgas Memorial Institute, not only because it will constitute a worthy recognition of the character and achievements of our late colleague, but will be in effect a memorial to the efficiency and importance of medical science in world progress.

It was moved and seconded that the Chair appoint a committee to act upon this communication and report at the next meeting. Motion carried.

THE REPORT OF THE CONSTITUTION AND BY-LAWS COMMITTEE

The report of the Committee on Constitution and By-Laws was given by the Chairman of the Committee, Dr. V. L. Treynor, Council Bluffs.

The report follows:

To amend Chapter 1, Section 1 of the By-Laws as follows: "except as prohibited in Article viii, Section 3 of the Constitution, providing such a member is a citizen of the United States."

To amend Chapter 1, Section 3 of the By-Laws by adding "Furthermore, any person practicing the methods of any cult or who is associated with any person practicing the methods of any cult not recognized by, or taught in, standardized medical colleges, who refuses to discard such methods of practice, shall be expelled from the membership of the Society; provided the evidence presented has been reviewed and substantiated by the Council."

Be it resolved that Chapter 8 of the By-Laws of the Iowa State Medical Society be amended as follows:

1. By inserting in Section 1 after the line "A committee on finance", a line to read as follows:

A committee on business administration.

2. By repealing Section 9 and enacting in lieu thereof the following:

The Committee on Field Activities shall consist of eleven members, one from each Congressional District of the State of Iowa, all of whom shall be members in good standing of the Iowa State Medical Society.

The members shall be nominated and elected by the House of Delegates and shall serve for a term of two years. Five of the members to be elected in the year 1924 shall serve for a term of one year only, the members who are to serve for the short term to be determined by lot.

The committee shall organize after the usual manner; a chairman and a secretary shall be elected.

It shall be the function of this Committee to collaborate with the Council as a body and with its members, with the Iowa State Board of Health, the faculty of the Iowa State University College of Medicine, The Iowa Tuberculosis Association, the Iowa Conference on Social Work, and with other agencies concerned with related activities in formulating joint programs, and in promoting interest and activity in lines calculated to increase the adequacy, efficiency, and equality of distribution of applied medical science throughout the State of Iowa.

The committee shall make rules governing the conduct of its affairs provided such do not conflict with the Constitution and By-Laws of the Iowa State Medical Society, and shall have power to appoint sub-committees, and to invite the (non-voting) participation of persons as advisory members of the committee.

3. By adding to the chapter after Section 12 the following:

Section 13. The Committee on Business Administration shall consist of the Chairman of the Board of Trustees, the Chairman of the Council, the Secretary of the Iowa State Medical Society, the Editor of the Iowa State Medical Journal, and the Chairman of the Field Activities Committee.

It shall be the duty of the Committee to appoint a Field Secretary, and to supervise his work.

The duties of the Field Secretary shall be to act as business manager of the Journal, to relieve the Secretary of the Society of such duties not connected with the scientific work of the Society as the Secretary may delegate to him, and to cooperate with the Field Activities Committee in furthering the advancement of medicine, the closer organization of the profession, and the dissemination of scientific education.

The remuneration of the field secretary shall be fixed by the Committee on Business Administration within the limits of the amount appropriated by the House of Delegates.

The expenses of the field secretary, including the expense of necessary help, shall after approval by the Committee on Business Administration be subject to the approval of the Board of Trustees of the Iowa State Medical Society, after which warrants for payment shall be made according to the provi-

sions of the By-Laws of the Iowa State Medical Society.

The committee shall be empowered to enter into such working agreements with associated agencies as it may deem wise and proper; to recruit a volunteer speaker's bureau and to pay the actual expenses of such speakers; to defray also the actual expenses of members of the committee that are incurred in performance of duties connected therewith, subject to the same rules and restrictions that apply to the Board of Trustees.

This report in accordance with the Constitution and By-Laws was laid upon the table to be acted upon at the Friday morning session of the House.

President Fay, after due consideration, appointed the following gentlemen to act as a committee on the Gorgas Memorial: Dr. J. F. Herrick, Ottumwa; Dr. C. H. Magee, Burlington, and Dr. C. A. Boice, Washington.

The Secretary read a communication from Dr. C. H. Graening of Waverly concerning the ethics of consulting with osteopaths.

REPORTS OF DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

Dr. Donald Macrae, Jr., Council Bluffs, as a delegate to the A. M. A., presented his report, giving a few of the matters that were considered at the San Francisco meeting. Dr. Macrae also quoted from the Transactions of the House of Delegates of the American Medical Association some of the recommendations on the medical practice act; medical education; the liquor question as it had to do with dispensing by physicians; the education of nurses and other matters.

Dr. Macrae was the only delegate of the Society to attend the San Francisco meeting.

Dr. Tom B. Throckmorton, delegate from the Section on Nervous and Mental Diseases of the A. M. A., supplemented the recommendations made by Dr. Macrae and emphasized the importance of electing delegates from the State Society who could, and would, attend the meetings of the National House of Delegates.

Resolutions

The Secretary read the following Resolution signed by Dr. W. S. Conkling, and Dr. A. D. McKinley, Des Moines. On motion duly seconded and carried, the resolution was adopted.

WHEREAS—The Harrison Antinarcotic Tax upon Physicians was raised from \$1.00 to \$3.00 per year during the World War, as a part of an emergency measure, by the United States Government, and

WHEREAS—It is now over five years since the close of the World War and the increased needs of this increased tax have been admittedly satisfied; therefore, be it

RESOLVED—That it is the unanimous feeling of the Iowa State Medical Society assembled at its Seventy-third Annual Session, held in Des Moines, Iowa, May 7, 8 and 9, 1924, that this act should be repealed along with sundry other war taxes that are now being repealed; and be it further

RESOLVED—That a copy of this resolution be sent to the United States Senators and Congressmen representing Iowa at Washington.

Wilbur S. Conkling,
A. D. McKinley,
Committee.

Resignation

The resignation of Dr. A. M. Pond, alternate delegate to Dr. M. N. Voldeng, to the A. M. A. was read, and upon motion duly seconded and carried, the resignation was accepted.

President Fay appointed as a committee of one, Dr. Tom B. Throckmorton, Secretary, to send greetings of the Society and flowers to members who were absent on account of illness, namely, Dr. Edward Hornibrook, Cherokee; Dr. James T. Priestley, Des Moines, and Dr. James R. Guthrie, Dubuque.

Dr. A. P. Stoner, Des Moines, presented the following Resolution, and moved its adoption. Upon motion, duly seconded and carried, the Resolution was adopted.

To the Executive Council of the State of Iowa:

WHEREAS—The State Medical Library has become an important and essential feature of the General Library of the State and is being utilized by the physicians and surgeons thereof with increasing interest and much profit to the profession and,

WHEREAS—It is understood that no obligation attaches to the duties of the librarian of this department to attend the annual meetings of the American Medical Library Association, and that it is the opinion of the members of the House of Delegates of the Iowa State Medical Society here assembled, that the attendance of the librarian upon such meeting is essential to the progress and highest efficiency of this library and should become one of the duties of the office, therefore be it

RESOLVED—That this body recommend and request that a portion of the money set aside by the Executive Council for library support be assigned for the purpose above named.

Meeting adjourned at 9:30 a. m. to meet Friday morning at 8 o'clock.

Third Meeting, Friday Morning, May 8

The House of Delegates met in Room 331 Hotel Fort Des Moines, and was called to order by the President at 8 a. m.

Thirteen officers and thirty-six delegates responded to the roll call. President Fay announced that a quorum was present, and the House proceeded to the transaction of business.

The minutes of the first meeting were read and, upon motion by Dr. C. A. Boice, which was duly seconded and carried, the minutes were approved as read.

The minutes of the second meeting were read, corrected, and, upon motion duly seconded and carried, the President announced the minutes approved as read.

Report of the Committee on Nominations

The report of the Committee on Nominations being the first order of business, Dr. J. F. Herrick, Secretary, of the Committee, presented the report.

The report follows:

The Nominating Committee met following the adjournment of the meeting of the House of Delegates, Thursday, May 8, roll call of districts showed all districts represented.

The ballot for officers resulted as follows:

For President-Elect—Dr. S. A. Spilman, Ottumwa; Dr. T. E. Powers, Clarinda; Dr. H. B. Gratiot, Dubuque.

For First Vice-President—Dr. W. H. Rendleman, Davenport.

For Second Vice-President—Dr. T. U. McManus, Waterloo.

For Secretary—Dr. Tom B. Throckmorton, Des Moines.

For Treasurer—Dr. A. C. Page, Des Moines.

For member Board of Trustees—Dr. W. B. Small, Waterloo.

For Delegate to A. M. A.—Dr. Donald Macrae, Jr., Council Bluffs.

For Delegate to A. M. A.—Dr. B. L. Eiker, Leon.

For Alternate Delegate—A. M. A.—Dr. D. N. Loose, Maquoketa.

For Alternate Delegate A. M. A.—Dr. J. F. Herrick, Ottumwa.

For Alternate Delegate A. M. A. to succeed A. M. Pond, resigned, J. W. Harrison, Guthrie Center.

For member Medico-legal Committee—Dr. D. S. Fairchild, Clinton.

For Public Policy and Legislation Committee—Dr. W. W. Pearson, Des Moines; Dr. M. J. Kenefick, Algona; Dr. D. J. Glomset, Des Moines.

For Constitution and By-Laws Committee—Dr. V. L. Treynor, Council Bluffs; Dr. C. B. Taylor, Ottumwa; Dr. Tom B. Throckmorton, Des Moines.

For Publication Committee—Dr. D. S. Fairchild, Clinton; Dr. W. L. Bierring, Des Moines; Dr. C. J. Rowan, Iowa City.

For Finance Committee—Dr. E. C. McClure, Bussey; Dr. C. P. Frantz, Burlington; Dr. N. Schilling, New Hampton.

For Medical Library Committee—Dr. D. S. Fairchild, Clinton; Dr. W. L. Bierring, Des Moines; Dr. O. J. Fay, Des Moines; Dr. G. H. Hill, Des Moines; Dr. C. E. Holloway, Des Moines.

For Councilor Fourth District—Dr. Paul E. Gardner, New Hampton.

For Councilor Seventh District—Dr. Channing G. Smith, Granger.

For Councilor Eighth District—Dr. F. A. Bowman, Leon.

Dr. C. A. Magee, Burlington, moved that the report be received. The motion was duly seconded and carried.

Election of Officers

The House then proceeded to an election.

The President appointed Dr. A. S. Price, Des Moines and Dr. E. C. McClure, Bussey, tellers.

The ballot was taken for President-Elect. There were forty-eight votes cast.

The President announced that no one had received a majority on the first ballot and that a second ballot would be taken.

Forty-nine votes were cast on the second ballot. Dr. S. A. Spilman, Ottumwa, having received the majority of the votes cast, President Fay declared Dr. Spilman elected President-Elect.

Dr. Herrick moved that, as there was but one candidate for the other officers and committee members, the rules be suspended, and the Secretary cast the ballot for the remaining officers and committee members. Seconded and carried.

Before casting the ballot, the Secretary stated that he would not be able to accept the office of Secretary unless adequate assistance was ordered by the House of Delegates. With this reservation, he cast the ballot for the remaining officers and committee members.

The President declared the remaining officers and committee members elected.

Dr. J. F. Herrick, Ottumwa, moved that Des Moines be the next place of meeting and that, on account of the confliction of dates with the Iowa State Dental Society, the date be changed from the first Wednesday to the second Wednesday in May and the date be May 13, 14, 15. Seconded and carried.

Unfinished Business

The President asked for unanimous consent to withdraw from the proposed amendments the amendment to Chapter viii, Section 1 and Section 9.

Dr. W. B. Small, Waterloo, moved that the President withdraw from the proposed amendments that amendment which has to do with Chapter viii, Section 1 and Section 9. The motion was duly seconded and unanimously carried. The proposed amendment was withdrawn.

REPORT OF THE COMMITTEE ON CONSTITUTION AND BY-LAWS

Dr. V. L. Treynor, Council Bluffs, Chairman of the Committee, read the proposed amendment to Chapter 1, Section 1 of the By-Laws by adding "except as prohibited in Article viii, Section 3 of the Constitution, providing such a member is a citizen of the United States", and moved its adoption. Seconded and carried.

The proposed amendment to Chapter 1, Section 3 of the By-Laws was then read by the Chairman of the Committee, Dr. Treynor, who moved its adoption: "Furthermore, any person practicing the methods of any cult or who is associated with any person practicing the methods of any cult not recognized by, or taught in, standardized medical colleges, who refuses to discard such methods of practice, shall be expelled from the membership of the Society; provided the evidence presented has been reviewed and substantiated by the Council".

Seconded.

It was moved by Dr. H. B. Jennings of Council Bluffs, that the proposed amendment be amended by adding the words "or such association" following the word "practice" in the fifth line; and the word "professionally" be added after the word "is" in the second line.

The amendment to the original motion, being duly seconded, was carried.

It was moved by Dr. J. H. Sams, Clarion, that the proposed amendment as amended be further amended

by adding the words "who counsels with or" after the word "or" in the second line. Seconded and carried.

The Secretary then read the amendment as it had been amended and moved its adoption: To amend Chapter 1, Section 3 of the By-Laws: "Furthermore, any person practicing the methods of any cult or who counsels with or who is professionally associated with any person practicing the methods of any cult not recognized by, or taught in, standardized medical colleges—who refuses to discard such methods of practice or such association—shall be expelled from the membership of the Society; provided the evidence presented has been reviewed and substantiated by the Council".

The motion was seconded and unanimously carried.

Dr. V. L. Treynor moved that a sum of money not to exceed \$4,000 be appropriated to secure the services of some person to assist the Secretary; to act as business manager of the Journal; to aid the Field Activities Committee, and to perform such other duties as may be designated.

Dr. W. B. Small stated that the Board of Trustees approved of the appropriation, and seconded the motion.

The President then put the motion and declared it carried.

REPORT OF THE COMMITTEE ON PUBLIC POLICY AND LEGISLATION

Dr. W. W. Pearson, Chairman of the Committee, Des Moines, presented the report.

Upon motion by Dr. W. B. Small, duly seconded and carried, the report was accepted.

The report follows:

Original bill provided that board of health should include heads of all examining boards which would give chiropractors and osteopaths representation on the board. This section was amended so that the board of health shall consist of the state commissioner of health, executive council and five city health officers appointed by the governor. Undoubtedly these health officers will all be physicians.

Original code bill defined *physician* as including osteopath and chiropractor. Bill as amended provided that a person licensed as a physician or surgeon shall be designated as a physician or surgeon, while a person licensed as an osteopath and surgeon shall be designated as an osteopathic physician or osteopathic surgeon and a person licensed as a chiropractor shall be designated as a chiropractor but that the word physician in this particular title only shall be interpreted to include all of the above. This is a distinct gain as the old law gave osteopaths and chiropractors all the privileges of physicians while the new law drops some such privileges retaining others.

The Commissioner of Health shall be appointed by the governor for four years and shall be a physician especially trained in public hygiene and sanitation.

Among new duties of the Commissioner of Health are power to conduct educational campaigns, issue bulletins and pamphlets, use laboratories of the State University for local investigations and surveys, have extended power of inspecting water, sewage and garbage disposal plants and supervise the venereal disease law.

The Commissioner of Health is also given power to enforce the law relating to the practice of the professions.

Within the department of health the following divisions are provided: contagious and infectious diseases; venereal diseases; housing; sanitary engineering; vital statistics; examinations and licenses; and the department of health may establish other divisions.

The plumbing code strengthened.

The housing law is made applicable to mining camps.

The department of health is given power relating to the pollution of streams. Any failure to obey this order constitutes contempt punishable in the same manner as contempt of court.

Vital statistics law revised to conform with increased power of commissioner of health. This law is satisfactory to federal census bureau.

Midwives are no longer permitted to sign certificates of death for stillborn children, and are eliminated from vital statistics law entirely.

The local registrar empowered to issue shipping permit for dead bodies.

Practically all administrative powers formerly lodged in Board of Health are assigned to Health Commissioner and the Board of Health becomes an advisory board.

The amendment requiring label of lye and publication of antidote as recommended by the American Medical Association, was adopted.

The pure food law was also strengthened in several particulars.

Other Bills

The county hospital law strengthened.

Board of Control bill satisfactory.

Other laws relating to public health recodified in satisfactory manner.

Provisions of former laws which gave chiropractors and osteopaths all the privileges of physicians were repealed.

Chiropractic and osteopathic examining boards required to turn examination, license and renewal fees into department of health annually.

Chiropractic and osteopathic boards may grant licenses but must certify to the department of health the application together with the questions submitted and answers thereto.

Provision that licenses must be renewed annually.

Distinction made between "osteopath" and "osteopath and surgeon".

Number of members of examining board reduced to three except in the case of dental board which remains at five.

State Medical Society or its managing board may

submit list of nominees for members of examining boards and governor may select.

State Department of Health to prepare list of accredited colleges. Schools to be accredited by the department if recommended by examining board together with Commissioner of Health.

Grounds for revocation of license extended and made uniform for all professions but with additional grounds for the practice of the healing art. Fee splitting made a ground for revocation. Attorney general and county attorney empowered to petition district court for revocation.

State Department of Health empowered to direct the attorney general to file such petition upon its own motion or upon the information of some resident of the county. Attorney general and county attorney must comply with direction of Department of Health.

Chiropractors, osteopaths and others must use title indicating their profession and may not call themselves merely doctors.

No degree or abbreviation of same shall be used unless college is accredited by the examining board together with the commissioner of health or by some recognized state or national accrediting agency.

A degree shall not be used in any such manner that may mislead the public.

License fees for osteopaths and chiropractors raised to \$20; for medicine \$25.

Reciprocal fees placed at \$40 and \$50 corresponding with those in other states.

Annual renewal for all professions required. Fee \$1.

Permanent injunction granted as remedy against anyone practicing without a license. State department of health empowered to enforce this.

All license fees to be collected by department of health and turned in to state treasury with the exception of pharmacists.

Medical board may recognize certificate of National Board of Examiners.

Podiatrists prohibited from using general anesthetic and making amputations.

Osteopathic requirements raised to a total of 4,422 college hours. Must be high school graduate. College course must extend over four years.

Chiropractors must be high school graduate.

Chiropractic college must have course extending over three school years with six months each year.

Chiropractors not permitted to prescribe or administer any drug or medicine in materia-medica.

Chiropractor must display in his office prominently the word chiropractor.

Respectfully submitted,

W. W. Pearson.

REPORT OF THE COMMITTEE ON MEMORIALS

The report of the Committee on Memorials was read by Dr. C. A. Boice.

The report follows:

Your Committee on the Gorgas Memorial Resolution approves of the passage of the Resolution.

WHEREAS—The life and achievements of the late William Crawford Gorgas have been to our members an inspiration to service for humanity, and

WHEREAS—The Gorgas Memorial Institute contemplates the establishment in his memory of a living working memorial in the form of:

- (A) A Research Institute at Panama, for the study, prevention and cure of tropical diseases, and
- (B) The development of a national campaign under the supervision of the scientific medical profession for the purpose of improving and protecting the health of people everywhere.

THEREFORE BE IT RESOLVED—In consideration of these facts, the Iowa State Medical Society, assembled at its annual convention at Des Moines, May 7, 8 and 9, 1924, hereby heartily endorses the plan to memorialize William Crawford Gorgas, in the manner contemplated by the Gorgas Memorial Institute, not only because it will constitute a worthy recognition of the character and achievements of our late colleague, but will be in effect a memorial to the efficiency and importance of medical science in world progress.

Approved:

John F. Herrick,
C. A. Boice,
C. H. Magee,
Committee.

REPORT OF THE FINANCE COMMITTEE

The report of the Finance Committee was made by the Chairman of the Committee, Dr. E. C. McClure, Bussey.

Upon motion, duly seconded and carried, the report of the Committee was accepted.

The report follows:

We find the statements of the Secretary and Treasurer in so far as they pertain to the finances of the Society to be entirely satisfactory.

As there was no further business to come before the House of Delegates, President Fay announced the adjournment at 9:45 a. m. sine die.

Tom B. Throckmorton,
Secretary.

IOWA STATE MEDICAL SOCIETY OFFICERS
AND COMMITTEES 1924-1925

President.....	F. M. Fuller, Keokuk
President-Elect.....	S. A. Spilman, Ottumwa
First Vice-President.....	W. H. Rendleman, Davenport
Second Vice-President.....	T. U. McManus, Waterloo
Secretary.....	Tom B. Throckmorton, Des Moines
Treasurer.....	A. C. Page, Des Moines

COUNCILORS		Term Expires
First District—R. S. Reimers, Ft. Madison.....		1925
Second District—D. N. Loose, Maquoketa.....		1927
Third District—A. G. Shellito, Independence.....		1926
Fourth District—Paul E. Gardner, Chairman.....		1929
Fifth District—George E. Crawford, Cedar Rapids.....		1928
Sixth District—S. F. Gray, Albia.....		1928
Seventh District—Channing G. Smith, Granger.....		1929
Eighth District—F. A. Bowman, Leon.....		1929
Ninth District—H. B. Jennings, Council Bluffs.....		1927
Tenth District—W. W. Beam, Rolfe.....		1926
Eleventh District—G. C. Moorhead, Ida Grove, Secretary.....		1925

TRUSTEES	
J. W. Cokenower, Des Moines.....	1925
W. B. Small, Waterloo.....	1927
T. E. Powers, Clarinda.....	1926

DELEGATES TO A. M. A.	
Donald Macrae, Jr., Council Bluffs.....	1926
B. L. Eiker, Leon.....	1926
M. N. Voldeng, Woodward.....	1925

ALTERNATE DELEGATES	
D. N. Loose, Maquoketa.....	1926
J. F. Herrick, Ottumwa.....	1926
J. W. Harrison, Guthrie Center.....	1925

COMMITTEES	
Medico-Legal	
D. S. Fairchild, Sr., Clinton.....	1927
H. B. Jennings, Council Bluffs.....	1925
W. B. Small, Waterloo.....	1926

Scientific Work	
F. M. Fuller.....	Keokuk
Tom B. Throckmorton.....	Des Moines
A. C. Page.....	Des Moines

Public Policy and Legislation	
W. W. Pearson.....	Des Moines
M. J. Kenefick.....	Algona
D. J. Glomset.....	Des Moines
F. M. Fuller.....	Keokuk
Tom B. Throckmorton.....	Des Moines

Constitution and By-Laws	
V. L. Treynor.....	Council Bluffs
C. B. Taylor.....	Ottumwa
Tom B. Throckmorton.....	Des Moines

Publication	
D. S. Fairchild, Sr.....	Clinton
W. L. Bierring.....	Des Moines
C. J. Rowan.....	Iowa City

Finance	
E. C. McClure.....	Bussey
C. P. Frantz.....	Burlington
N. Schilling.....	New Hampton

Arrangements	
F. M. Fuller.....	Keokuk
Tom B. Throckmorton.....	Des Moines
A. C. Page.....	Des Moines
Two members from Polk County Medical Society	

Medical Library	
D. S. Fairchild, Sr.....	Clinton
W. L. Bierring.....	Des Moines
O. J. Fay.....	Des Moines
G. H. Hill.....	Des Moines
C. E. Holloway.....	Des Moines

Field Activities Committee	
Iowa State Med. Society.....	W. L. Bierring, Chrm., Des Moines
Iowa State Med. Society.....	President-Elect S. A. Spilman, Ottumwa
Iowa State Medical Society.....	B. L. Eiker, Leon
Iowa State Board of Health.....	R. P. Fagan, Des Moines
State University Med. College Faculty.....	N. G. Alcock, Iowa City
State Conference of Social Work.....	James F. Edwards, Ames
Iowa Tuberculosis Ass'n.....	Mr. T. J. Edmonds, Sec'y, Des Moines
Director.....	F. E. Sampson, Creston
Advisory Secretary.....	Tom B. Throckmorton, Des Moines

PAST PRESIDENTS	
*Enos Lowe, Burlington.....	1851
*D. L. McGugin, Keokuk.....	1852
*J. D. Elbert, Keosauqua.....	1853
*J. M. Witherwax, Davenport.....	1854
*George Reeder, Muscatine.....	1855
*Thomas Siveter, Salem.....	1856
*J. C. Hughes, Keokuk.....	1857
*Thomas Siveter, Salem.....	1858
*J. H. Rauch, Burlington.....	1859
*E. S. Barrows, Davenport.....	1860
*R. S. Lewis, Dubuque.....	1861
*J. F. Henry, Burlington.....	1862
No meeting of the Society.....	1862
No meeting of the Society.....	1863
*H. T. Cleaver, Keokuk.....	1864

*M. B. Cochran, Davenport.....	1865
*J. C. Hughes, Keokuk.....	1866
*J. W. H. Baker, Davenport.....	1867
*William Watson, Dubuque.....	1868
*Philip Harvey, Burlington.....	1869
*S. B. Thrall, Ottumwa.....	1870
*James Gamble, LeClaire.....	1871
*A. G. Field, Des Moines.....	1872
*J. Williamson, Ottumwa.....	1873
*W. S. Robertson, Muscatine.....	1874
*H. T. Cleaver, Keokuk.....	1875
*W. F. Peck, Davenport.....	1876
*H. C. Bulis, Decorah.....	1877
*H. Ristine, Cedar Rapids.....	1878
*A. M. Carpenter, Keokuk.....	1879
*G. P. Hanawalt, Des Moines.....	1880
*S. B. Chase, Osage.....	1881
*T. J. Caldwell, Adel.....	1882
*D. Scofield, Washington.....	1883
*S. E. Robinson, West Union.....	1884
*H. C. Huntsman, Oskaloosa.....	1885
*D. W. Crouse, Waterloo.....	1886
*A. W. McClure, Mount Pleasant.....	1887
*J. C. Hinsey, Ottumwa.....	1888
*Donald Macrae, Council Bluffs.....	1889
*J. M. Emmert, Atlantic.....	1890
*Wm. D. Middleton, Davenport.....	1891
*George F. Jenkins, Keokuk.....	1892
C. M. Hobby, Iowa City.....	1893
Lewis Schooler, Des Moines.....	1894
*A. L. Wright, Carroll.....	1895
D. S. Fairchild, Clinton.....	1896
*J. C. Shrader, Iowa City.....	1897
Edward Hornibrook, Cherokee.....	1898
Henry B. Young, Burlington.....	1899
*Thos. J. Maxwell, Keokuk.....	1900
*R. E. Conniff, Sioux City.....	1901
James R. Guthrie, Dubuque.....	1902
James T. Priestley, Des Moines.....	1903
*James A. Scroggs, Keokuk.....	1904
D. C. Brockman, Ottumwa.....	1905
Wm. P. Jepson, Sioux City.....	1906
*E. W. Clarke, Grinnell.....	1907
Walter L. Bierring, Iowa City.....	1908
*Charles F. Wahrer, Fort Madison.....	1909
George E. Crawford, Cedar Rapids.....	1910
M. Nelson Voldeng, Cherokee.....	1911
*L. W. Littig, Davenport.....	1912
V. L. Treynor, Council Bluffs.....	1913
Lee Wallace Dean, Iowa City.....	1914
Henry C. Eschbach, Albia.....	1915
William B. Small, Waterloo.....	1916
John F. Herrick, Ottumwa.....	1917
John N. Warren, Sioux City.....	1918
Max E. Witte, Clarinda.....	1919
William L. Allen, Davenport.....	1920
Donald Macrae, Jr., Council Bluffs.....	1921
Alanson M. Pond, Dubuque.....	1922
Charles J. Saunders, Fort Dodge.....	1923

*Deceased

SOCIETY PROCEEDINGS

Dallas-Guthrie County Medical Society

The Dallas-Guthrie County Medical Society held the second meeting of the year at Panora, April 17.

Program: Frontal Tumors—Dr. F. A. Ely, Des Moines. Fractures—Dr. Geo. P. Elvidge. Resume of the Kansas City Small-pox Epidemic—Dr. D. Smith. The Legal Status of Medical Practice—Dr. W. L. Thompson.

Decatur County Medical Society

Decatur County Medical Society met at Leon,

Thursday evening, April 17. About forty were in attendance. Every member on the program was present and good interest was manifest. Papers were read by Drs. Paul Stookey of Kansas City, W. G. Walker of Corydon, John C. Parsons of Creston and J. S. Coontz of Garden Grove. The surrounding counties were all well represented.

B. L. Eiker, Sec'y.

Four-County District Medical Society

The physicians of four counties, including Buena Vista, Plymouth, Cherokee and Ida counties, met at Ida Grove May 14, 1924.

Program: 1. Electricity in Practice: (a) X-ray Technic, Dr. Robt. B. Armstrong, Ida Grove; (b) A Clinic Ray, Dr. E. W. Bookhart, Ida Grove; (c) Diatherma, Dr. E. S. Heilman, Ida Grove. 2. Perforations of the Alimentary Tract, Dr. J. M. Fetter, Le Mars. 3. Embryology, Histology and Anatomy of the Faucial Tonsil, Dr. E. P. Smith, Storm Lake. 4. Pneumonia, Dr. C. H. Hall, Cherokee.

Fremont County Medical Society

The Fremont County Medical Society met in Sidney, May 2. Officers elected were: President, Dr. Kerr of Randolph; secretary-treasurer, Dr. Wana-maker of Hamburg.

Jackson County Medical Society

The regular spring meeting and banquet of the Jackson County Medical Society was held in Maquoketa on the evening of May 28, 1924. After a good dinner served at 6:30 an excellent scientific program followed.

Out of a resident membership of nineteen, thirteen were present.

Guests from outside of Jackson county were: Dr. McCord, Clinton county; Dr. Wheeler, Dubuque county and Drs. Rock and Senty, Scott county.

The first paper was on Extra-Uterine Pregnancy, by Dr. J. O. Ristine of Maquoketa. The subject was well handled, and interesting cases were reported. The full discussion which followed brought out many valuable facts about this serious and not uncommon pathological condition.

Dr. J. E. Rock of Davenport read the next paper. His subject might be termed, Diagnosis and Treatment of Some Diseases of the Eye, Ear, Nose and Throat which Generally the General Practitioner Sees First. Dr. Rock gave us many points helpful in the early treatment of many cases which are usually referred to the Specialists.

The last paper on the program was given by Dr. Elmer G. Senty of Davenport. Subject: Peptic Ulcer. The author's conclusions were based on exhaustive readings of the literature, research at the Mayo Clinic and the personal experience of an attack of duodenal ulcer from which he is slowly recovering. The discussion was opened by Dr. Swift who is also recovering from a peptic ulcer.

Motion was unanimously carried: That we invite The Iowa Tuberculosis Association to hold tuberculosis clinics in Jackson county.

A rising vote of thanks was given to Drs. Rock and Senty for their excellent and instructive papers.

Next regular, mid-summer meeting will be held in Bellevue, date to be fixed by the officers.

D. N. Loose, Sec'y-Treas.

Lee County Medical Society

The fortieth semi-annual meeting of the Lee County Medical Society was held at Keokuk recently, with a clinic conducted by Dr. H. V. Scarborough, superintendent of the Oakdale Sanatorium, and a lecture by Dr. J. J. Singer of St. Louis, Missouri. The clinic was on tuberculosis cases. A number were examined by Dr. Scarborough, in conjunction with the public health nurses of Keokuk and others were also examined.

Dr. J. G. Rea of Fort Madison is the president of the society. Dr. John Wilson of Keokuk is vice-president and Dr. William Rankin, secretary and treasurer. The committee which arranged the program and clinic was composed of Drs. Wilson, O. T. Clark and William Rankin.

Sessions of the society and the clinic were held in the Y. W. C. A. rooms. Nurses of the V. N. A. staff assisted in the clinical arrangements, and a number of patients were brought to the building for examination by Dr. Scarborough, who is head of the Iowa sanatorium at Oakdale and a national authority on tuberculosis.

The Value of Pneumo-thorax, was the subject of the paper which Dr. J. J. Singer of St. Louis gave during the afternoon session. Dr. Singer is another authority of note in this section, and his lecture was a feature of the medical society session.—Keokuk Gate City.

Lucas County Medical Society

The Lucas County Medical Society met in regular session June 17 at the public library, Chariton, where the following scientific papers were read: Corneal Ulcers, Dr. D. B. Sollis, Chariton; Resume of Syphilis with lantern demonstration, Dr. R. E. Jameson, Davenport. The next meeting of the society will be held some time this month.

Mahaska County Medical Society

The regular monthly business meeting of the Mahaska County Medical Society took the nature of a banquet and social evening in the basement of the Methodist church in New Sharon. About fifty members, wives and guests, took part in the program. Dr. Charles Wallace, a pioneer physician of forty years' practice, acted as toastmaster. The address of welcome by Dr. S. W. Hartwell and the response was given by Dr. E. Marsh Williams of Oskaloosa.

Scott County Medical Society

Scott County Medical Society met at the Chamber of Commerce, Davenport, Iowa, May 6.

Program: Modern Treatment of Cancer of the Breast and Uterus, by Dr. Henry Schmitz, Chicago. Diagnosis of Diseases of the Chest and Lungs, by

Dr. F. W. Guard, Mayo Clinic, Rochester, Minnesota.

Tama County Medical Society

Tama County Medical Society was held at Hotel Toledo, May 2. The following officers were elected: President, Dr. G. T. McDowell, Gladbrook; vice-president, Dr. A. F. Walters, Gladbrook; secretary-treasurer, Dr. Geo. Meyer, Gladbrook.

Upper Des Moines and the Northwestern Iowa Medical Societies

A joint meeting of the Upper Des Moines and the Northwestern Iowa Medical Societies will be held at the Cassina on West Okoboji Lake on the 26th and 27th of June, 1924.

The Upper Des Moines Medical Society comprises the counties of Dickinson, Clay, Palo Alto and Emmet.

The Northwestern Iowa Society the counties of Lyon, Osceola, O'Brien and Sioux.

Medical, surgical and special diagnostic clinics by strong men from Sioux Falls, Sioux City, Omaha, Des Moines, Chicago and Rochester will be supported by interesting papers by local men.

MARRIAGES

Dr. Rodney P. Fagan of Des Moines and Miss Mary Elizabeth Allen, also of Des Moines, were married May 20.

Dr. Fagan is secretary of the Iowa State Board of Health.

Dr. Kenneth von Lackum of Cedar Rapids and Miss Adellia Boies of Des Moines, were married at Waterloo, April 21, 1924.

Dr. Lloyd Lacy of Des Moines and Miss Dorothy Care, also of Des Moines, were married April 19, 1924, at the bride's home.

Dr. Edgar R. Earwood and Miss Helen Hart, both of Fort Dodge, Iowa, were married at St. Mark's Episcopal Church.

Dr. Earwood served with the Rainbow Division in the World War.

Dr. H. R. Carson of Knoxville and Miss Lillian Walker of Linden were married March 27.

PLAUT RESEARCH FUND

Dr. Edward Plaut, president of Lehn & Fink, Inc., New York, has presented the Harriman Research Laboratory with the sum of \$3000 for the year 1924, to be known as the "Plaut Research Fund for Studies in Internal Medicine." This fund is to aid in the investigation of the effects of certain therapeutic agents, especially the endocrine glands. Dr. K. G. Falk has been placed in charge of this work by Dr. W. G. Lyle, director of the Harriman Research Laboratory.

To the Members of the Iowa State Medical Society, Greeting:

This number of the Journal contains the Transactions of the House of Delegates of the Seventy-Third Annual Session of the Iowa State Medical Society.

Every member of the State Society should familiarize himself with the work of this important body. The reports of the various officers and committees contain much information that should be utilized by the members of this Society.

The July number of the Journal annually contains vital information relative to the medical profession, and every Secretary of a Component County Medical Society should file a copy with his records for reference, thus increasing the efficiency of his office as well as that of the County Society.

As an evidence of what is believed to be of importance to you, your attention is called to the published transactions of the Society appearing in this issue, in the hope that this message will be heeded.

TOM B. TIROCKMORTON,
Secretary.

PERSONAL MENTION

Dr. J. E. Crouch, who has been connected with the Veterans' Hospital at Knoxville for the past three years, has resigned on account of poor health.

Dr. Bruce McDowell of Hampton will locate in Allison for the practice of medicine about July 1.

Dr. Paul F. Stookey, formerly of Leon, Iowa, has been appointed health commissioner of Kansas City, Missouri.

Dr. F. C. Mehler of New London, who graduated from Rush Medical College, Chicago, sixty-one years ago, who has been a member of the Iowa State Medical Society since 1885 and who has practiced medicine in New London fifty-three years, entertained the physicians of southeastern Iowa May 21, 1924, at the New London Country Club. We have read the program with much interest. It was indeed a strenuous day of entertainment, but well fitted the spirit of the entertainer, who watches the passing of years with interest, but as having no relation to himself. Day by day he performs the duties of a country practitioner of medicine, with never a question of "what is the matter with the medical profession?"

Dr. and Mrs. A. B. Bowen celebrated their fiftieth wedding anniversary May 12, 1924. Dr. Bowen began practice in 1869 at Maquoketa. He graduated from the Albany Medical College, New York in the class of 1868, near the last days of the year, he has, therefore, been actively engaged in the practice of medicine in one community fifty-five years and has seen many things come and go. Dr. Bowen has been fortunate in every respect, and it is given to few men to be able to look back on a long life spent in useful service, with so few things to regret and darken the latter days.

Dr. F. R. Priessman of Mechanicsville has sold his practice to Dr. F. S. Kisor of Cedar Rapids.

At the military surgeons' meeting held in Des Moines, Dr. Donald Macrae of Council Bluffs, was elected president, and Dr. Wilbur S. Conkling, Des Moines, adjutant.

Dr. Gershom H. Hill of Des Moines, has sold his interest in the well known "Retreat" to Dr. John C. Doolittle, who has for several years been associated with Dr. Hill. Dr. Hill will retire from active practice.

Dr. F. J. Stodden of Panama, Iowa, has located in Mapleton. Dr. Stodden served with the 38th Infantry in the Third Division and was present at the battles of Chateau Thierry, St. Mihiel and the Argonne. He was wounded in the Argonne two weeks before the armistice was signed.

Dr. L. L. Smead and Dr. W. E. Lyon of Newton have entered into a partnership for the practice of medicine, with office in the Jasper County Savings Bank Building.

The choosing of Dr. S. A. Spilman, local surgeon, as president-elect of the Iowa State Medical Society, recently in Des Moines, has brought out a bit of interesting local history. Ottumwa has had, including Dr. Spilman, six presidents of the State

Society. They are Dr. S. B. Thrall, Dr. J. Williamson, Dr. J. C. Hinsey, Dr. D. C. Brockman, Dr. J. F. Herrick and Dr. Spilman. Dr. Spilman was chosen at the May meeting of the State Society in Des Moines and will take his office at next year's meeting, also in Des Moines, in May, 1925. The Iowa State Medical Society was organized in 1850 and has met yearly since that time, with the exception of a two-year interruption during the Civil War.—Ottumwa Courier.

OBITUARY

Dr. Mary A. Coveny died at Mercy Hospital, Clinton, Iowa, after a prolonged illness.

Dr. Coveny was born in Quebec, Canada, February 5, 1863, and came to the United States when she was six years of age. She obtained her preliminary education at the Benedictine Academy at Conception, Missouri. After graduation from this institution she entered the Iowa State University. Later under the influence of her brother, Dr. J. T. Coveny, she took up the study of medicine and graduated from the medical department of the university in the class of 1892. Dr. Coveny then entered the Chicago Polyclinic and in 1893 received a certificate of graduation. Immediately following she entered upon the practice of medicine in Clinton.

Dr. Coveny having a real and genuine love for her profession, at once associated herself with the various medical organizations, the Clinton County Medical Society, the Iowa State Medical Society, the American Medical Association and the State Society of Iowa Medical Women. She was a charter member of the Medical Women's Society and at one time its president. It was rare, indeed, that she failed in her attendance upon these society meetings.

Dr. Mary A. Coveny was generous in her attendance upon those who needed her assistance in times of trouble and sickness. The writer had known her well since she entered upon her duties as a practitioner of medicine and can bear testimony to the fact that none were so poor, so unfortunate or so degraded that she did not at once respond to their call, night or day, regardless of weather and exposure. If she could render service at the bedside by an all night vigil, she never hesitated; the hovel or the palace were the same to her, if there was one who needed her ministrations. She was indeed a true physician and a Christian woman.

Dr. Geo. W. Carter, formerly of Marshalltown, died at Boulder, Colorado, April 22, 1924, at the age of ninety-seven years.

Dr. Carter was for many years a prominent physician in Marshalltown. The writer recalls many pleasant hours with Dr. Carter in years that have passed, when Doctors Kierulph, Ward, Getz and Sherwood were leading physicians.

Dr. Carter was born at Heffleton, England, April 18, 1827. He came to the United States with his mother when he was ten years old. Graduated in medicine from the University of Michigan in 1853.

He began practice in Davenport. In 1862 enlisted for the Civil War, serving first in the Ninth Iowa Infantry and then in the Third Iowa Cavalry and at the close of the war he was mustered out as a major. Dr. Carter resumed practice in Davenport until 1869, when he moved to Marshalltown where he practiced until 1894, when he retired from practice and moved to Boulder, Colorado. Dr. Carter was married twice.

Dr. Joseph Eugene Brittan, youngest child of Daniel and Charlotte Brittan, was born in Danville, New York, October 19, 1860, and died at Decatur, Iowa, May 9, 1924, aged sixty-three years, six months and twenty days.

When a small boy his parents moved to Esperance, New York, and here he grew to manhood. In 1880 he entered the New York Homeopathic Medical College, in New York City, from which he graduated in 1884, and soon after began practicing his profession in Potsdam, New York. In 1894 he returned to New York and entered Bellevue Medical College to specialize in the eye, ear, nose and throat. About two years later he located at Elwood, Nebraska. In August, 1899, he was united in marriage to Miss Mavis Hayden; to this union three children were born, one of whom died in infancy. In October, 1913, he located in Decatur, Iowa, where he had since practiced his profession.

Dr. L. Lafayette Bond, one of the best known and the oldest practitioners in Crawford county, passed away at his home on East Broadway in Denison on Tuesday afternoon, May 27, 1924, at 1:45 o'clock, after an illness covering a period of more than two years. During the past few months he had been a great, but very patient, sufferer.

Dr. L. Lafayette Bond was born in Harrison county, West Virginia, on the 14th day of August, 1841, his parents being Richard C. and Eliza A. (Grant) Bond, who were likewise natives of that state. Abel Bond, the paternal grandfather, was also born in Virginia and came of English descent. He was an agriculturalist by occupation and served as major in the Revolutionary War.

Richard C. Bond, the father of L. Lafayette Bond, was a Baptist minister of the old school. In 1846 he journeyed west to Rock county, Wisconsin, becoming a pioneer preacher of Lima, that state. He took up a homestead near Lima and there he spent the remainder of his life, passing away on the 20th day of January, 1910, when ninety-seven years of age. His wife was called to her final rest in 1896 when in her seventy-sixth year of age.

L. Lafayette Bond was a mere lad of five years when he accompanied his parents to Wisconsin. They traveled by boat from Wheeling, West Virginia, to Galena, Illinois, where they met Abel Bond, the grandfather, who escorted them to his home. Mr. Bond remained on the farm until twenty-one years of age. He obtained his early education in the district schools and subsequently attended Mil-

ton College. At the outbreak of the war in May, 1861, he endeavored to enter the Union Army, but was rejected because he was a minor and did not have the consent of his parents. In September, 1861, he enlisted with a number of students of Milton College, joining Co. K, 13th Wisconsin Volunteer Infantry, and rendezvoused at Janesville, Wisconsin. With that command he remained three years and three months, holding the rank of sergeant. His was the first brigade of the fourth division of the 20th Army Corps, Army of the Cumberland, under General Thomas. He participated in the battles of Clarksville Tennessee, Fort Donelson and Chickamagua and acquitted himself in a highly creditable manner.

After returning home he pursued a course of study in Bryant & Stratton Business College of Milwaukee, but later determined upon the practice of medicine as a life work and entered Rush Medical College of Chicago, from which institution he was graduated in 1870. The first five years of his professional career were spent at Welton, Iowa, where he also taught school during four winter terms in order to add to his income. In 1875 he came to West Side, Iowa, and there practiced medicine successfully until 1899, which year witnessed his arrival in Denison. Here he has remained continuously since, and for many years enjoyed a lucrative practice. He became surgeon for the Northwestern Railroad in 1883, and remained in that capacity until he gave up active practice a number of years ago. He was a member of the Crawford County Medical Society, the Missouri Valley Medical Society, the Iowa State Medical Society, the American Medical Association, the American Association of Railway Surgeons, and the Association of the Northwestern Railroad Surgeons, thus keeping in close touch with the advancement made in the profession.

Dr. Samuel S. Weidner was born in New Burlington, Delaware county, Indiana, December 7, 1846, and died in Clarinda, May 1, 1924.

Dr. Weidner came to Iowa in 1863, graduated from Rush Medical College, Chicago; practiced in Bedford fifteen years and for twenty-three years in Fairbury, Nebraska.

BOOK REVIEWS

HERNIA: ITS ANATOMY, ETIOLOGY, SYMPTOMS, DIAGNOSIS, DIFFERENTIAL DIAGNOSIS, PROGNOSIS, AND OPERATIVE TREATMENT

By Leigh F. Watson, M.D., Associate in Surgery Rush Medical College, Chicago; 232 Original Illustrations, by W. C. Shepard. C. V. Mosby Company, 1924. Price, \$10.00.

This book of 660 pages presents a full discussion of hernia, and will be a valuable and important addition to a surgeon's library. Hernia constitutes one of the most important chapters in a surgeon's experience; as to etiology, diagnosis and treatment, particularly to surgeons engaged in industrial prac-

tice. It is within the experience of many surgeons still actively engaged in surgical practice that operative treatment of hernia—aside from strangulated hernia—has become an accepted and successful method of treatment. There are many practitioners who even now have but an indistinct conception of many important facts concerning hernia.

The author in introducing his work presents a chapter on the historical conception of hernia, followed by a chapter on the General Consideration of Hernia, the most important of which is the Etiology of Hernia, in which he holds that "the principal cause of hernia is undoubtedly the existence of a congenital sac. Other predisposing causes are: Congenital weakness of hernial ring, heredity, age, sex, pregnancy, obesity, trauma and certain diseases." We may in this connection present the views of the author on traumatic hernia. "The relation of a congenital sac and a weak hernial ring is the foundation of a slowly developing hernia and on the occurrence of a sudden strain, the last step of the process brings a hernial tumor into existence, and we are confronted with a so-called 'traumatic hernia', which the patient believes to be due to accident, a diagnosis frequently confirmed by his medical advisor". Under the head of "Traumatic Hernia" the author states that "the sudden occurrence of hernia following a blow or a crushing injury is very rare."

In a chapter devoted to the "Medico-Legal Aspects of Hernia" the author brings out the study and observations of state industrial commissions in regard to the subject of traumatic hernia and observes that "true traumatic hernia is very rare and only a few cases have been reported in the literature" and notes the nature of the injury. Hernia of Weakness and Hernia of Effort have been referred to.

The Hernia of Weakness and the Hernia of Effort constitute the vast majority of hernias for which compensation is sought, and these have occupied the attention of compensation commissions, which are placed in a position to determine to what extent trauma is responsible, and what rules should be adopted to protect against fraud, in claims where there was a previously existing hernia.

Dr. Watson reports the rules adopted by foreign countries, where court decisions have determined responsibility and the rules adopted by state industrial commissions in the United States, to determine what conditions and symptoms must exist to establish a claim for hernia of weakness and effort and of previously existing hernia. The chapter on the medico-legal aspects of hernia includes many other points we have not referred to, should be read by every practicing surgeon who is inclined to consider only the technic of hernia operations.

A large part of the book is devoted to the different methods of operative treatment of different types of hernia. But there are many questions that lead up to operative treatment which are of great importance. A full consideration of anatomical relations; a full diagnosis and determination of facts, which will have great influence in the success of a

well planned operation. The difference in the results of different surgeons does not always lie in technical skill and dexterity in operating, but in a full conception of many related things which enable the surgeon to plan his operation, selecting the best method as applied to the particular case.

Much attention is given to the prevention of hernia following abdominal operations. Many ventral hernias follow badly planned abdominal operations which could have been prevented if a better planned abdominal operation had been adopted.

The author greatly favors local anesthesia in most types of hernia operation, and presents in considerable detail the method of administration and the agent to be employed and a warning to prevent sloughing by care in too extensive edematization.

An important feature of this book is the index which has been prepared with great care and which enables the reader to find the references with facility. The bibliography is full and complete and gives credit to contributors to the literature of hernia.

We cannot commend this book too highly, and no surgeon can feel that his library is complete without the possession of this book. Apparently everything relating to hernia may be found. The illustrations are very helpful, especially relating to operative methods and technic.

NON-SURGICAL DRAINAGE OF THE GALL TRACT

A Treatise Concerned with the Diagnosis and Treatment of Certain Diseases of the Biliary and Allied Systems, in Their Relation to Gastro-Enterology and General Clinical Medicine. By B. B. Vincent Lyon, A. B., M.D., Chief of Clinic Gastro-Intestinal Department of the Jefferson Hospital; Associate in Medicine in Jefferson Medical College; Attending Physician to the Methodist Episcopal Hospital, Philadelphia. Illustrated with 175 Engravings and 10 Colored Plates. Lea & Febiger, 1923, Price \$10.00.

The author of this book of 640 pages sets forth his method of draining of the biliary tract by way of the duodenum. As preliminary to his method of treatment, Dr. Lyon presents two chapters on the embryology, the anatomy and physiology of the liver and biliary system and a chapter on the physiological chemistry of the bile, also a chapter on the history of gall tract disease.

With this preliminary preparation, he enters a plea for early, comprehensive and complete diagnosis. The fact of fundamental importance is an accurate diagnosis if one is to accomplish the desired results.

According to the author there are medical gall-bladders, and surgical gall-bladders, and that by testing with the duodenal tube we may determine from the bile itself if medical treatment promises success. It has been found that magnesium sulphate, olive oil and solutions of peptones will stimulate the discharge of bile, and in accordance with a certain

technic the flow is pipeted and collected and examined with reference to the condition of the bile and of the biliary system. The collection and examination of the bile is not alone relied upon as a means of diagnosis, but, in addition, the usual methods are employed. It is well known that infection is the cause of most disease of the bile tract, and that certain symptoms indicate disease of the gall-bladder, especially as related to the stomach, and that these symptoms in a large number of cases persist for a long time before the gall-bladder becomes a surgical entity, and it is these groups of causes that remain medical; that it is the duty of the physician to make the diagnosis before stones have formed and before surgical conditions of the walls of the gall-bladder have taken place. It is at this time that the persistent and laborious investigations of the author has shown that a proper employment of drainage may effect a cure.

In the opinion of Dr. Lyon, without an examination of the bile by the duodenal tube, we should not depend alone on physical examination or the symptomatology. After the employment of the ordinary methods of diagnosis and the collected bile has established the existence of infection, the drainage treatment should be employed, which consists in passing the duodenal tube into the duodenum and discharging a quantity of magnesium, olive oil or solution of peptones, exciting a free flow of bile, which is discharged through the tube. The technic is very elaborate and is set forth in the book in great detail. It is not difficult to follow, but must be exact. It is quite beyond the limits of a review to point out the method elaborated by Dr. Lyon, but the logic of the drainage treatment must appeal to the careful reader.

We would suggest to those who are interested in saving their gall-bladder patients from the risks of an anesthesia and a surgical operation, to secure this book and read it with great care, for success must depend upon an exact technic.

There is apparently an unnecessary repetition and some confusion in the arrangement of the text, but this is perhaps necessary in attacking long established methods, but certainly this method of treatment is entitled to a careful hearing.

It may be observed further, that cases suitable to drainage treatment are divided into groups which should be carefully considered, even in stone cases, the drainage after operation may be of great advantage.

THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY IN THE WORLD WAR

Volume 5; Military Hospitals in the United States Prepared Under Direction of Major-General M. W. Ireland, M.D., Surgeon General of the Army. By Lieut-Col. Frank W. Weed, M. C. U. S. Army. Government Printing Office, Washington, D. C., 1923.

Volume 5 of the Medical History of the Great War is before us. In the introduction is presented an account of the evolution of the military hospital from early times. The early American hospitals, hospitals of the American Revolution, followed by an account of the Crimean War, the Civil War, the period between the Civil War and the Great War.

With Section 1 comes the Evolution of Hospitals, procurement methods. This is an interesting account of organization of hospitals for various purposes after the United States entered the war. The locations, classifications, etc. Construction plans for temporary hospitals in Section 2, including numerous drawings and pictures of hospitals, illustrating the purpose for which they were constructed, including administration. Hospitals at national army cantonments. Section 3 considers organization, administration and control. Section 4, types of hospitals. This includes base hospitals at cantonments and camps; general hospitals; permanent; Walter Reed Hospital; General Hospital No. 2, Ft. McHenry, Baltimore; General Hospital No. 21, Denver; Tuberculosis General Hospital No. 3, Colonia, New Jersey, receive exhaustive consideration, illustrated by numerous cuts.

Chapter 19 presents a discussion of post hospitals. Chapter 20 considers the various types of aviation hospitals. A chapter is given to Airplane Ambulance service. Considerable space is given to Embarkation and Debarkation Hospitals.

In addition to the hospitals enumerated are many other hospitals, considered in considerable detail, with 204 illustrations and twenty-two tables. This volume of 857 pages, printed on heavy paper, is devoted to the United States Army Hospitals.

After examining this exceedingly interesting book, we are impressed with a feeling of pride and satisfaction at the provision our government made for the care of sick and wounded soldiers. It must be admitted that the stress of a great war finding us unprepared for such an emergency, that at times and in many places our provisions were inadequate, and particularly, because so many medical officers were called into the service who had but little experience in hospital administration. We should always call to mind also that our people had but little comprehension of what a great war meant, that things should happen as they did. It is to the credit of the war administration, and particularly to the present Surgeon General Ireland and Surgeon General Gorgas, that such an array of first class hospitals should exist.

We feel that competent medical men on examining this volume of war history will join in commendation of our government and its administrators in the class of hospitals at the service of our soldiers.

THE PRACTICAL MEDICINE SERIES

Under the General Editorial Charge of Charles L. Mix, A.M., M.D., Vol. I, General Medicine, Edited by George H. Weaver, M.D.; Lawrason Brown, M.D.; Robert B. Preble, A.M., M.D.; Bertram W. Sieppy,

M.D.; Ralph C. Brown, S.S., M.D. The Year Book Publishers, Chicago. Series 1923.

This series comprises eight volumes on the year's progress in medicine and surgery.

The volume is divided into five departments, which consist of a review of recent progress in these several departments: Infectious Diseases and Endocrinology, by George H. Weaver, M.D., Professor Pathology Rush Medical College; Diseases of the Chest (excepting the heart), by Lawrason Brown, M.D.; Diseases of the Blood and Blood-Making Organs, Diseases of the Blood-Vessels, Heart and Kidney, by Robert B. Preble, A.M., M.D., Professor of Medicine Northwestern University Medical School. Diseases of the Digestive System and Metabolism, by Bertram W. Sieppy, M.D., Professor of Medicine Rush Medical College, and Ralph C. Brown, M.D., Associate Professor of Medicine, Rush Medical College.

These well known names are a sufficient guarantee of the general character of the work offered the profession. It may be said that the volume is not made up of the abstracts of notable papers published, but rather a resume of the several subjects taken up under the several heads above designated. The advantage the physician will find in this volume is the brief outline of subjects that will come up to him in every day practice. He will find it a most excellent supplement to the larger works which he will feel the need to study for the fuller knowledge of medicine as it is practiced today.

We are not in sympathy with the idea of only consulting books that tell how to deal only with the case in hand, but we do believe there is a place for means of ready reference, not only ready treatment, but also an outline of scientific principles, especially in the line of progress which this series undertakes to point out.

CLINICAL DIAGNOSIS

By Laboratory Methods. A Working Manual of Clinical Pathology. By James Campbell Todd, M.D., Professor of Clinical Pathology, University of Colorado. Fifth Edition, Enlarged and Reset. Octavo of 762 Pages with 325 Illustrations 29 in Colors. Philadelphia and London: W. B. Saunders Co. Cloth, \$6.00 Net.

This book gives every indication of being a high class production. Its scope is indicated by its subtitle, A Working Manual of Clinical Pathology, and by the table of contents. It naturally opens with a very complete chapter on the Use of the Microscope, followed by others on Urine, Blood, Feces, etc., giving exact information as to methods of examination and their results, and the interpretation of these results. Sero diagnostic methods are fully considered, the various modifications being carefully delineated, with a brief discussion of the flocculation test for lues. Bacteriological Methods, the Preparation and Use of Vaccines follow, with an appendix on apparatus and reagents. We must not fail to mention the final feature of the book, an index of

laboratory findings in important diseases, clues to the all important question of identification. The volume is well printed and well and fully illustrated and can be highly recommended to both student and laboratory technician, not to mention the general practitioner.

Reynolds.

THE SURGICAL CLINICS OF NORTH AMERICA

December, 1923, Vol. 3, No. 4. W. B. Saunders Company.

This is a Kansas City number and the first clinic is by Dr. Arthur E. Hertzler, Halstead Hospital.

Two-Stage Operation in Acute Strangulation of the Gut. There are included in this clinic several other interesting cases, with numerous excellent illustrations. Dr. Hertzler has the gift of making his cases interesting.

Dr. Thomas G. Orr has also a full clinic at the University Hospital of Kansas.

Drs. W. J. Frick and R. D. Irland present an interesting case of Recklinghausen's disease. Dr. Henry R. Wahl presents an unusually large clinic of interesting cases. Also Merion F. Sudler.

This is a particularly interesting number and does Kansas City surgery credit. All the clinics are nearly equal in interest and importance.

In presenting a few clinics we find it convenient to do so as an introduction only.

THE PRINCIPLES OF VITAL STATISTICS

By I. S. Falk, Ph.D., Department of Public Health, Yale University. Published by W. B. Saunders Company, Philadelphia and London; 258 Pages, Illustrated.

This little volume is a veritable mine for information pertaining to vital statistics. It is excellently written on good paper. It contains numerous tables, charts and graphs, and has a very good bibliography

as well as a reliable index. It abounds in interesting facts. Glomset.

THE MEDICAL CLINICS OF NORTH AMERICA FOR NOVEMBER, 1923

W. B. Saunders Company.

This is a Boston number of some 420 pages. The clinics are divided among the several hospitals of Boston and presented by well known Boston internists. The first is by Dr. Henry A. Christian, at Peter Bent Brigham Hospital, on Heart Defects; followed by a diabetic clinic at the New England Deaconess Hospital, by Dr. E. P. Joslin and by Reginald Fitz, on the same subject, at Peter Bent Brigham Hospital.

There are altogether twenty-six clinics on different subjects.

NEW AND NON-OFFICIAL REMEDIES

In addition to the articles enumerated in our letter of April 26, the following have been accepted:

Neutral Acriflavine—Abbott for Intravenous Injection, 0.1 Gm. Ampules.

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Hypodermic Tablets Digalen—Roche (Cloetta).

Lederle Antitoxin Laboratories:

Pollen Antigens—Lederle.

Giant Ragweed Pollen Antigen—Lederle, Green Sage Pollen, Antigen—Lederle; Lambs Quarters Pollen Antigen—Lederle; Marsh Elder Pollen Antigen—Lederle; Olive Pollen Antigen—Lederle; Pasture Sage Pollen Antigen—Lederle; Southwestern Ragweed Pollen Antigen—Lederle; Western Water Hemp Pollen Antigen—Lederle; Western Ragweed Pollen Antigen—Lederle.

(Continued on Adv. Page xxii)

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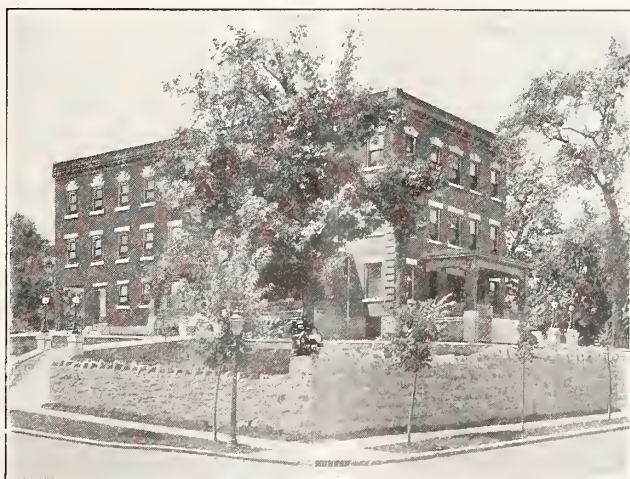
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U. S. VETERANS BUREAU

Dr. Appleton H. Pierce, senior surgeon, U. S. Public Health Service Reserve has been appointed as medical officer in charge of the recently completed U. S. Veterans' Hospital No. 95, Northampton, Massachusetts, General Frank T. Hines, director of the U. S. Veterans' Bureau has announced.

A native of Massachusetts, Dr. Pierce received his public school education in the town of his birth, Leominster. In 1895 he graduated from the Harvard Medical School which was followed by an internship at the Worcester State Hospital. Later he was appointed assistant physician in the Worcester State Hospital. From 1897 until 1917 he practiced medicine in his home town. During this time he devoted considerable attention to consultation practice in neuro-psychiatry. He was appointed associate medical examiner in the 3rd Worcester District, Commonwealth of Massachusetts in 1903, remaining in office almost twenty years.

At the outbreak of the World War he was commissioned in the Medical Reserve Corps of the army and was assigned to the neuro-psychiatric department. In May, 1918, he was assigned as chief of the new neuro-psychiatric department, Base Hospital, Camp Jackson, South Carolina. In May, 1919, he was promoted to the rank of major. His overseas service was with Base Hospital No. 85. He was honorably discharged from the army September, 1920, having received a commission as surgeon in the U. S. Public Health Service Reserve.

Dr. Pierce was ordered to U. S. Public Health Service Hospital No. 44, West Roxbury, Massachusetts, where he served as ward surgeon and later as clinical director, assuming charge of the institution when it became known as U. S. Veterans' Hospital No. 44, in July, 1922. On April 1, 1923, he was promoted to the grade of senior surgeon. Major H. R. Reynolds formerly of Clinton, Iowa, is executive officer.

ANNOUNCEMENT

The Retreat Company wishes to announce that Dr. Gershom H. Hill has disposed of his interest in The Retreat to Dr. John C. Doolittle, with whom he has been associated for the past twenty years. Dr. Russell C. Doolittle, who, for the past twelve years, has been assistant physician, is now physician in charge. Dr. Julia F. Hill will continue as assistant physician. Mr. Sydney L. Macmullen has been appointed business manager. Dr. John C. Doolittle as president of the reorganized company will continue as general director of the institution.

Plans for increasing the efficiency of the hospital are being worked out, and we wish to assure you that the ethical and conservative policy that has always characterized the work of The Retreat will be strictly adhered to.

U. S. VETERANS' HOSPITAL, KNOXVILLE

The fifteen units of the United States Veterans' Hospital at Knoxville, Iowa, have been completed and patients are now being received for treatment.

Approximate cost of the buildings was \$1,000,000. Buildings constructed are: Main structure, tuberculosis cottage, continued treatment structure, kitchen and mess hall, recreation building, storehouse, laundry, home for female attendants, nurses' quarters, commanding officer's quarters, staff quarters, two staff assistants' quarters, power house and a smokestack.

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Keokuk.....	J. Lynn Crawford, Cedar Rapids.....	M. E. Kemp, Sigourney
Kossuth.....	J. H. Chittum, Wapello.....	Walter Fraser, Algona
Lee.....	R. C. Gutch, Chariton.....	William Rankin, Keokuk
Linn.....	L. L. Corcoran, Rock Rapids.....	W. H. Redmond, Cedar Rapids
Louisa.....	C. B. Hickenlooper, Winterset.....	O. W. McGrew, Columbus Junction
Lucas.....	B. G. Williams, Oskaloosa.....	A. L. Yocom, Jr., Chariton
Lyon.....	C. S. Cornell, Knoxville.....	E. S. Aeilts, Little Rock
Madison.....	Edwin Cobb, Marshalltown.....	Robt. R. Davissan, Winterset
Mahaska.....	J. G. McGue, Silver City.....	R. M. Gillett, Oskaloosa
Marion.....	J. C. Westenberger, St. Ansgar.....	J. R. Wright, Knoxville
Marshall.....	J. S. Deering, Onawa.....	L. H. Launder, Marshalltown
Mills.....	T. A. Moran, Melrose.....	M. S. Campbell, Malvern
Mitchell.....	J. F. Meyers, Elliott.....	Guy A. Lott, Osage
Monona.....	F. F. Beveridge, Muscatine.....	M. O. Stauch, Whiting
Monroe.....	F. W. Cram, Sheldon.....	Frank N. Bay, Albia
Montgomery.....	J. F. Benning, Yorktown.....	Geo. A. Alliband, Elliott
Muscatine.....	James Hennessey, Emmetsburg.....	W. H. Johnston, Muscatine
O'Brien.....	W. L. Downing, Le Mars.....	J. W. Myers, Sheldon
Osceola.....	W. C. Porath, Varina.....	Frank P. Winkler, Sibley
Page.....	M. L. Turner, Des Moines.....	J. F. Aldrich, Shenandoah
Palo Alto.....	A. V. W. Hennessey, Council Bluffs.....	H. L. Brereton, Emmetsburg
Plymouth.....	L. F. Crain, Deep River.....	M. J. Joynt, Le Mars
Pocahontas.....	Wm. Horne, Mount Ayr.....	E. C. Kepler, Pocahontas
Polk.....	F. H. McCray, Schaller.....	L. K. Meredith, Des Moines
Pottawattamie.....	J. E. Rock, Davenport.....	L. G. Howard, Council Bluffs
Poweshiek.....	E. A. Moore, Harlan.....	F. E. Simeral, Brooklyn
Ringgold.....	J. G. deBey, Orange City.....	Samuel Bailey, Mount Ayr
Sac.....	H. M. Templeton, Ames.....	Jas. McAllister, Odebolt
Scott.....	M. L. Allen, Manning.....	Paul A. White, Davenport
Shelby.....	J. W. Beauchamp, Bedford.....	A. L. Nielson, Harlan
Sioux.....	A. S. Beatty, Creston.....	A. F. H. deLespinasse, Orange City
Story.....	T. G. McClure, Douds-Leando.....	B. G. Dyer, Ames
Tama.....	H. A. Spilman, Ottumwa.....	R. H. Whalen, Tama
Taylor.....	L. E. Hooper, Indianola.....	G. W. Rimel, Bedford
Union.....	Henry C. Hull, Washington.....	H. A. Childs, Creston
Van Buren.....	S. W. Corbin, Millerton.....	Chas. R. Russell, Keosauqua
Vapello.....	Wm. R. Bates, Ft. Dodge.....	H. W. Vinson, Ottumwa
Warren.....	F. A. Hennessey, Calmar.....	M. L. Hooper, Indianola
Washington.....	Victor Brown, Sioux City.....	C. A. Boice, Washington
Wayne.....	S. S. Westley, Manley.....	G. H. Sollenbarger, Corydon
Webster.....	George E. Schnug, Dows.....	J. F. Studebaker, Fort Dodge
Winnebago.....		L. C. Kuhn, Decorah
Winnebuck.....		Arch F. O'Donoghue, Sioux City
Woodbury.....		Chas. A. Hurd, Northwood
Worth.....		O. A. Kellogg, Dows
Wright.....		

NEW AND NON-OFFICIAL REMEDIES

(Continued from Page 346)

Abbott Laboratories:

Mead Johnson and Co.:

Mead's Powdered Protein Milk.

Ohio Chemical and Mfg. Co.:

Ethylene for Anesthesia.

E. R. Squibb and Sons:

Pollen Allergen Solutions—Squibb.

Annual Salt Bush Pollen Allergen Solution—Squibb; Arizona Ash Pollen Allergen Solution—Squibb; Arizona Cottonwood Pollen Allergen Solution—Squibb; Arizona Walnut Pollen Allergen Solution—Squibb; Ash Pollen Allergen Solution—Squibb; Black Mulberry Pollen Allergen Solution—Squibb; Bermuda Grass Pollen Allergen—Solution—Squibb; Black Walnut Pollen Allergen Solution—Squibb; Brome Grass Pollen Allergen Solution—Squibb; California Black Walnut Pollen Allergen Solution—Squibb; Careless Weed Pollen Allergen Solution—Squibb; Cedar Pollen Allergen Solution—Squibb; Cocklebur Pollen Allergen Solution—Squibb; Corn Pollen Allergen Solution—Squibb; Dark Leaved Mugwort Pollen Allergen Solution—Squibb; False Ragweed Pollen Allergen Solution—Squibb;

Hickory Pollen Allergen Solution—Squibb; Johnson Grass Pollen Allergen Solution—Squibb; June Grass Pollen Allergen Solution—Squibb; Lamb's Quarters Pollen Allergen Solution—Squibb; Marsh Elder Pollen Allergen Solution—Squibb; Nettle Pollen Allergen Solution—Squibb; Oak Pollen Allergen Solution—Squibb; Mugwort Pollen Allergen Solution—Squibb; Orchard Grass Pollen Allergen Solution—Squibb; Pigweed Pollen Allergen Solutions—Squibb; Pine Pollen Allergen Solution—Squibb; Poplar Pollen Allergen Solution—Squibb; Ragweed Pollen Allergen Solution—Squibb; Rye Pollen Allergen Solution—Squibb; Sagebrush Pollen Allergen Solution—Squibb; Sandbur Pollen Allergen Solution—Squibb; Shadscale Pollen Allergen Solution—Squibb; Sheep Sorrel Pollen Allergen Solution—Squibb; Slender Ragweed Pollen Allergen Solution—Squibb; Sweet Vernal Grass Pollen Allergen Solution—Squibb; Timothy Pollen Allergen Solution—Squibb; Western Ragweed Pollen Allergen Solution—Squibb.

Wilson Laboratories:

Desiccated Parathyroid Substance—Wilson.

Tablets Desiccated Parathyroid Substance—Wilson, 1/20 grain.

Tablets Desiccated Parathyroid Substance—Wilson, 1/10 grain.

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ORATION ON MEDICINE*

FRANK M. FULLER, M.D., Keokuk

Scientific medicine, of the future, will have for its aim the determination of the beginning of pathology.

The whole trend of research in medicine, has had for its goal the determination of facts, which will develop the possibility of preventive medicine.

The application of these facts in practical clinical work has succeeded in practically eliminating many diseases, notably diphtheria, malaria, yellow fever, plague and typhoid. It has succeeded in making possible the early diagnosis of tuberculosis and within the medical lifetime of the younger men of this society has given us the primary cause of syphilis with its consequent early diagnosis and effective treatment.

The recognition of the causes of these diseases has enabled us to determine the early pathology. Late pathology can be recognized in the gross specimen but if we are to get beyond the point where he who runs may read, it is necessary to be able, by all the finer methods of modern practice, to mark the earliest changes from the normal.

The main purpose of this paper is, briefly and simply, to emphasize the fact that no pathology can be recognized as such, without an intimate knowledge of the normal. To get the normal demands that a thorough grounding in the so-called "four branches" be made in medical schools, and then the knowledge thus gained be made a definite working part of every day practice every day in the year.

The student in college prides himself on his intimacy with what used to be called the four branches; viz., anatomy, chemistry, physiology, and will the nihilists permit me to add, *matéria medica*. He can tell you in detail the fine points of osteology, where muscles and tendons are attached; he can rapidly give you the muscle layers from within, out, or from without, in; he can

from memory outline the blood and nerve supply of the various areas and organs; he can draw for you, in detail, the motor areas of the brain and can trace the distribution and give the function of the twelve cerebral nerves or the spinal distribution of the nervous system. He has a kaleidoscopic view of the changing physiology of organs and blood and in the modern chemical course he knows the difference between a breaker glass and a fume chamber—and more.

But, alas, when he has mastered these fundamentals, but before he has made them a part of him, never to be lost, some one shows him a case in which disease is present and from that time on he is interested only in the abnormal. He wants to see disease, he wants to attend the clinic where disease is shown. In his eagerness to become a doctor he seeks the pathological to the exclusion of his hard won knowledge of the normal. He closes his college life, goes out to practice the application of his knowledge and soon we find him standing among the thoughtless and apparently taking pride in boasting of how much anatomy, or chemistry, or physiology he has forgotten.

All effort seems to be along the line of study of clinical disease. What the medical student of today needs, and by medical student I mean every earnest, thoughtful man in the profession, is a more intimate and constant study of the normal. There should be clinics of the normal as well as clinics of disease.

The quack and charlatan applies his so-called remedy without a diagnosis. He has no basic knowledge of the normal. No consideration of cause and sequence. No consideration of the demonstrable departure from normal into the pathological. Can we class ourselves as scientific men, if in spite of our claims to recognition, we allow our actual daily work to fall to the plane of that of the charlatan?

Scientific medicine is only scientific when it seeks truth and endeavors to apply a remedy to a cause.

Diagnosis, that is, to know through, to, in common parlance, know "what is the matter" if it is to be a diagnosis that will aid most, is based on

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the recognition of when the pathological began. This depends on ability to see minor changes from the normal. This ability is predicted on a definite knowledge of the normal, whether it be the anatomical normal, the physiological or the chemical normal.

The "four branches" are absolutely the corner stone of all successful clinical medicine. No man can or should attempt the solution of the problems of his every day work without a review of the facts that are given to him in his anatomy, his physiology and, in modern medicine, his chemistry.

Study the work of the masters of medicine, or if you recognize none such, study the work of the man who makes the most accurate diagnosis in your community and you will find that their diagnosis is not based on memory of previous cases seen, nor by symptoms known. It is obtained, in most instances, by simple observation of the departure from normal—anatomical, chemical or physiological.

Observe the capable man at work, the man to whom the profession flocks for teaching, and men will say how easy he does it and yet you know he does it by using the very facts of simple, basic normal which you have forgotten.

What folly it is for a medical man to seem to make a virtue of saying that he has forgotten his anatomy. If it is not true it is only a pose. If it is true he admits himself incapable of meeting his first responsibility to his patient, that is, of making an intelligent diagnosis.

Any one of the patient's family can tell readily enough that there has been "a stroke" but how can a physician tell where the hemorrhage has occurred, what part of the brain is sustaining the pressure, unless he can read the anatomy of the brain as revealed by the muscular area involved?

How is it possible to make a diagnosis of any disease of the cord, or in fact of any part of the nervous system unless one keeps himself familiar with not only the anatomy, but the physiology, as well?

A surgeon who attempts to deal with broken bones without a careful consideration of the muscles and the principles of physics involved will soon find himself involved in serious difficulties. Can there be less responsibility to the physician, in dealing with broken nerves and their normal muscle supply?

In dealing with an organ in which there has been departure from the normal function there is greater difficulty than in solving the problems having to do with the more definite anatomy. In some organs, the definite function necessary to maintain health has been positively determined

and we know when there is an abnormal change if we know the present physiology of that organ.

While there is still an enormous field in which to exercise the mind of the research worker, yet modern medicine has very definitely fixed the physiologic function of practically the whole of the digestive tract and its appended organs. We must admit that knowledge of this physiology alone will not guide us to a diagnosis, still it is just as true that we will come nearer to the real pathology and thus to a true diagnosis if we have the definite normal, as it is known today, and look from the normal to the abnormal rather than at the pathological alone.

There is an enormous field of fact that has yielded us a great mass of definite knowledge relative to the anatomy and function of the kidney and liver. Yet we find ourselves constantly abandoning this knowledge in the practical treatment of the diseases of these organs. Tubules whose function it is to eliminate solid wastes and which find themselves choked beyond capacity in certain diseases, are called on to assume even greater burdens by a diet which forgets absolutely the normal possibility. Liver cells which, normally, are loaded to capacity to care for the intricate metabolism of the food are often crowded over into an abnormal state by a forgetfulness of or inattention to the physiology of these marvelous cells.

There are many bio-chemical tests today to reveal abnormal function of many organs. But you know that most of these tests are not available to you. You have the case to deal with, it is your responsibility to make a true diagnosis. Get your tests if possible but you will read more clearly if you look through the glass of the normal physiology toward the cloudy pathological. Of the four branches most men will agree, readily, that the two, which have been considered, anatomy and physiology, are essential to the fair estimation of a diagnosis. When one speaks of chemistry, hands are, figuratively, thrown high in the air and the consideration of this necessary science is declared a terra incognito.

While it is true that the intimate details of chemical reactions, in relation to present day medical analysis of secretions and blood, are without the ken of the man in general work and must needs be left to the more technical work of the laboratory, it must not be forgotten that a fundamental knowledge of chemistry is the base on which we must build almost all that we know of the physical changes of food, or tissues and blood.

Respiration is a physiologic process carried out by anatomic structures by which a chemical ele-

ment, oxygen, is carried to bio-chemical iron with which it forms a direct combination until it is replaced, by another bio-chemical reaction, with the chemical compound carbon dioxide.

Digestion is that process by which food is converted from its chemical combinations, in the form of proteins, fats, carbohydrates and inorganic salts into the more assimilable chemicals, peptones, soaps and glucose.

We talk glibly about hydrogen ion concentration and non-protein nitrogen, the carbon dioxide content and we have, with more frequency in times past spoken of free and combined hydrochloric acid in the stomach as though we understood what we were talking about and yet, in the same breath, we have disclaimed any knowledge of chemistry. Chemistry is the only foundation of our knowledge of the relation of salt in the tissues to edema, yet are we content to accept only the clinical fact that a salt free diet is advisable in certain stages of some kidney lesions.

What we know of hematology, today, is based mainly on certain chemical facts. The great advances that have been made in the understanding and prognosis and treatment of diabetes have been made possible through the application of chemical principles to the study of blood sugar. The simplest examinations of the urine, the examinations of the stools for occult blood, the proper application of certain functional tests are all based on the use of chemical agents. If we are to have an understanding conception of why these tests give us information it is necessary for us to, at least have a modicum of knowledge of the chemical processes involved. If every man was equipped with a laboratory and technician it might be well to leave the chemistry to him, but most men do these things for themselves. How many men, who test urine for sugar, know what chemical changes are necessary in his copper solution to prove the presence of sugar? Why does it have to go through three changes of color to prove reduction? What is reduction and why does an excess of urine reduce the solution even when sugar is not present? These would be simple questions and not worthy the attention of this society if men were not making mistakes every day because of their lack of knowledge of the simplest facts of chemistry of the reagents they are depending on for their conclusions. Conclusions that are worthless because of ignorance of the simple laws necessary to the proper use of the test. Probably I have given unnecessary multiplication of detail to illustrate the obvious. There must be the level and the plumb. The pole star and the compass are essential in computing the course. It is needed to have the kilo and the

pound, the meter and the yard to establish the standard of weight and measure. These standards have been arbitrarily fixed and cannot be departed from if we are to have accuracy in construction or in commerce. Just so if we are to have an approach to accuracy in the estimation of departure from normal in disease we must have first some standard of normal from which we are to measure the degree or the nature of the pathology.

The normal of the "four branches" is not a fixed standard. The means for the correction of the abnormal is, in the present status of medicine, not a fixed science. But we must regard anatomy, physiology and chemistry, so far as they have been established by medical research, as fixed for our purpose. There may be alterations which may change the whole view of our work. Even today all the standards which have been accepted by us under the recognized laws of universal gravitation have been put under question by the Einstein theory. But until some more refined research shall correct the knowledge we now have as to the structure the function and the reactions of the body we must be compelled to accept the normal as it is established today. And having accepted that, as normal, we must set ourselves to know what that normal is, before we can hope to say that we are able to recognize the pathological and set about measures to correct it.

I know well that the one idea presented here seems so self-evident and so primary that it appears a presumption to take your time to present it thus. It is just because we are so eager to follow disease to its termination rather than to its source that we have a great mass of literature on the abnormal and find all too little time to go back and make a part of ourselves those "four branches" which were, in the wisdom of the founders of medical education, made the very foundation stones on which the whole structure of an intelligent knowledge of disease, of the abnormal, the pathological, must needs rest.

No man can keep in mind all the details of what he has at one time learned, but to make an apparent virtue of boasting how much anatomy, physiology or bio-chemistry he has forgotten is to undermine and cast away the base. It leaves all the structure of his medical work on shifting sands of uncertainty and doubt. His view of the abnormal is distorted and can never be brought into an ordered and assembled knowledge. He has nothing to tell him how much he is out of plumb. It is even difficult for him to know when he has reached a normal equilibrium. A man of this type may, from the deformity, recognize the need for a muscular correction, but he has no

standard to tell him when he has corrected to the normal and no knowledge to guide him away from the fatal overcorrection. He may be able, from the clinical evidence, to recognize a hyperglycæmia but he forgets that he may have a normal sugar content or that his progressive clinical signs may point to a deadly hypo-glycæmia, where he needs to add sugar instead of withholding it. He may, in his laboratory, doubt the accuracy of some of the simplest tests of secretions, but because he has forgotten some very simple chemical facts which any man who is qualified to practice medicine ought to be able to know, he is unable to tell wherein, not he, but his reagent is at fault.

As was stated the purpose of this paper is to emphasize the fact that no disease can be recognized as such without an intimate knowledge of the normal.

It is not the intention to suggest that merely the knowledge obtained by a mastery of the four branches will give one a superior ability to diagnose disease. The great science of medicine is too broad and the conditions surrounding the etiology of disease are so varied and so intangible that for one to assume that there is one key only by which the door of diagnosis may be opened is to confess an ignorance of the whole subject.

There are many conditions, such as the neuroses, the psychoses, and the so-called "functional diseases," all terms which we are compelled to use because we have no anatomical basis for the development of the pathology, in which the disturbances are not sufficiently pronounced to cause anatomic or organic lesions of great enough degree to be recognized by our present means.

There are too many distinct clinical entities which have arisen through the compounding of a series of indirect effects. In these, mostly chronic, there have been undefined primary affections which have given rise to a second or a third before the pathology has developed to a point where the individual himself or his physician, by most careful observation, can be able to detect a departure from the normal. Such are the types of interstitial nephritis with the preceding vascular fibrosis and the intermediate or terminal cardiac conditions. In the same class, too, there to be found those diseases which are characterized by sclerotic changes in the cord or brain, or in which the cells of the brain undergo degenerative changes with softening or sclerosis from a primary blocking of a terminal vessel.

In these conditions, which are only cited to illustrate a large field in diagnosis, there must be taken into consideration all the anatomical, the pathological and physiopathological and etiological factors before a true picture of the case may be

approximated. But they only illustrate the fact and emphasize the need for a more minute pathological physiology, or biochemical physiology.

To say that the condition, as we find it, has traveled through such intricate and devious ways as to thoroughly cloud the trail which leads us back to the first departure from normal and in doing so has induced us to discard all study except the gross pathology spread out before us is to cast discredit on that great and brave group of medical men who have given health and even life to research.

The pathology of typhoid or of yellow fever was long considered to be confined to the intestine until lives were given to prove the fact that it lay further back and the cause was found.

Diagnosis will only be found to be complete when it not only accounts for the clinical but for the pathological, the anatomical, physiological and necessarily the etiological conditions in the case.

While this ideal of medical attainment can only be obtained by using every means of history, clinical evidence and laboratory work, still the fact remains that with all these aids to thorough work, there can be no real standard of judgment unless underlying all, there is a fundamental knowledge of those basic things of medicine which are compassed in the four branches.

The normal is difficult to attain in any field of human endeavor. There are social problems which have to do with the individual and with society in which the solution seems to be impossible because it is so nearly impossible to get at what is the real normal. There are problems of physiology and biochemistry which will have to wait on the slow progress of medical investigation and achievement before a normal, from which to judge the pathological can be determined. But there is a mass of fact that has already been determined which will tax the capacity of any of us to use in our work. If on this accumulated knowledge we will attempt to base our efforts at diagnosis there will be less of error than if we forget the normal and look only at the problem of pathology.

If in the presenting of these self-evident truths the members of this society can be halted, for a moment in the commendable but misdirected study of the abnormal, alone, and can be put back into the freshman class for a careful and studious review of their "four branches" I feel that the time taken in presenting the obvious will not have been spent in vain.

"If ye know these things, happy are ye if ye do them."

GENERAL PARESIS*

SAMUEL T. ORTON, M.D., Iowa City

General paresis was long considered one of the simplest of the mental diseases in which to establish an accurate clinical diagnosis but it was not until a post-mortem criterion was available that this opinion could be controlled. This control was given us by the work of Nissl and Alzheimer who described the histological changes in this disease. Southard¹ in 1910 controlled by microscopic examination a series of cases in which the diagnosis of paresis was accepted unanimously by the clinical staff of the Danvers State Hospital in Massachusetts and found an error in the clinical diagnosis of 15 per cent. In 1913, the writer² reviewed a similar series at the Worcester State Hospital and found about the same error. Today, by the application of laboratory examinations, this error is probably reduced to less than half of one per cent.

Histologically paresis is characterized by a widespread infiltration of lymphocytes and plasma cells in the perivascular spaces of the brain vessels with usually a greater or less amount of brain cell destruction, and accompanying neuroglia replacement. Most cases do not come to autopsy until after the psychosis has been established for a long time and they usually show marked parenchymatous changes in the brain. This is indeed, so prominent that Fildes and McIntosh³ have classified paresis as a parenchymatous form of syphilis of the nervous system in contrast to the vascular and meningeal forms. In very early cases, however, the perivascular lesions are well marked but the brain destruction is often mild. In one case with violent death within eight days of the onset of mental symptoms typical perivascular exudate was found but no evidence of brain cell damage beyond those changes which are constantly associated with all exhaustive, infective and toxic deaths. This suggests strongly that the process is primarily a perivascularitis with late invasion of the brain substance and the anatomical distribution of the paretic process also supports this view.⁴ In a large proportion of cases the lesions are well developed over the field of distribution of the branches of the carotid arteries but are so mild over the occipital pole—i. e., the field of the basilar branches, as to render diagnosis difficult or even impossible. In fulminant and very slow cases the whole brain is about equally involved and very rare cases (Lissauers paresis) occur, in which the occipital pole

is hard hit and the rest of the brain only slightly involved.

Further—Vascular lesions of the same type as those seen within the brain can frequently be demonstrated in the carotid vessels outside of the cranium and syphilitic aortitis—in which the lesions again, are the same as the paretic infiltrate except as modified by the structure of the aorta—occurs in a high proportion of paretics.

Certain old syphilitics give all of the laboratory signs of paresis and some of the neurological findings but show no mental change. These cases of "laboratory paresis" or "paresis sine paresi" again suggest a developing process in which the essential brain tissues are not seriously affected.

These considerations indicate that paresis, like cerebral syphilis makes its chief attack on tissues of mesodermal origin, i. e., the vessel walls and sheaths. It differs from cerebral lues, however, in that it is more progressive in course and with practically no tendency toward spontaneous cure, that it is very resistant to specific treatment and that the histological lesion is quite distinct.

Paresis develops often after a syphilitic infection which has run a very mild course in the primary and secondary period and is characterized usually by a very long latent period (two to ten years) after clinical evidence of the infection has disappeared and before evidence of the brain involvement is apparent. This bespeaks a very even fight between the parasite and the host and it is on this even balance between the invasive power of the spirochaete and the resistance of the host that many of the differences between this process and cerebral syphilis are probably to be explained.

The mild course of the preceding syphilis and the long latent period are in harmony with this and the difference in histological picture may also be so explained. Theobald Smith⁵ has published a study of the relation of resistance to type and location of the lesions of tuberculosis in calves, which offers a parallel to this problem. Intravenous injection of virulent bovine tubercle bacilli into calves produces massive tuberculosis of the lungs, running a rapid course and differing markedly from the chronic course with cavity formation in man. Smith has shown that if the resistance of calves be raised by partial immunization before such inoculation the acute tuberculosis does not appear, but the organisms which persist in such animals find their way to the peri-bronchial lymphnodes and localize there, causing lesions which by invasive bronchial involvement ultimately lead to cavitation not unlike that seen in man. Smith further indicates that the types of reactive cells differ in the two instances, the

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lymphoid cell being in greater proportion in the more chronic process, while the endotheloid and giant cells are more numerous in animals of lower resistance. The difference of histological expression may here be referred directly to the increased resistance of the host. In cerebral syphilis there is histological evidence of a greater reaction on the part of the tissues—fibrous overgrowth, more intense cell exudation, etc.—which may indicate a more vigorous defense and hence greater chance of spontaneous recovery. In paresis, in harmony with its usual course, there is much less of the productive type of lesion and much more of the degenerative. The resistance to treatment is probably no greater than that of its histological congener—syphilitic aortitis—and it seems possible that the long residence of the parasite in a resistant host might well tend toward increasing its resistance toward specific treatment.

Most of our hopes in the treatment of paresis today lies in the arsenicals either by themselves or in conjunction with some form of mercury. When salvarsan therapy of early syphilis was still in the experimental stage many untoward results led to the advice expressed by Ehrlich himself, against its use where there was evidence of nervous system involvement. Today we have come to look upon the paretic as unusually resistant to the dangerous effects of the arsenicals. However, the spirochaet in paresis is also resistant and doses effective in early syphilis are without apparent result in the paretic. Indeed, with the tendency toward ever increasing intensity of specific treatment it seems as though we were attempting to determine in each case whether the spirochaets or the patient will be the first to succumb to arsenic poisoning. At best in doses sufficient to be effective in halting the progress of paresis we are nearing the line of intoxication for the patient. With such intensive treatment, however, reports of apparent cures or at least remissions of unusually long duration are slowly accumulating but unfortunately there are probably many more cases in which the treatment has resulted in no improvement or has even been followed by an acceleration of the downward course. The new drug tryparsamide which is available only in restricted centers for accurate study seems to give considerably greater promise.

If we are correct in our deductions that paresis is primarily a perivascularitis and that its resistance to treatment is not due to inaccessibility but rather to a modification of the organism through long residence in an unfavorable soil (i. e., a resistant host) there can be little argument in favor of the various intracerebral and intraspinal methods of administration of the antiluetic, and in-

deed present practice seems definitely to incline toward the intravenous route.

Treatment, however, is far from satisfactory after mental symptoms are evident. Often the onset of mental symptoms is very gradual and considerable mental degradation has taken place before the patient comes under observation and probably such deterioration is to be correlated with actual structural brain losses which, of course, are irreparable. In early cases and even in those of moderate progression intensive treatment is certainly indicated and of these some will respond to treatment with at least an amelioration and a few, with remissions of greater or less duration. But as a whole the results of treatment are so uncertain that the opinion is gaining ground rather rapidly that after the psychosis is established the outlook for recovery is doubtful. The logical conclusion from this experience is that treatment to be effective must aim at prevention of the psychosis instead of its cure. Before mental symptoms are established, cases do not reach the psychiatrist but many of them have, at some time, been in the hands of the general practitioner, the internist or the genitourinary surgeon and some others come into their hands very early because of some of the physical concomitants of the early stages of the process and it is at this stage and in the hands of these men that treatment for prevention offers the most hope. With our present laws provision is made for the handling of cases of venereal disease who are in the contagious period and form a menace to others but apparently no enforced follow up method is included which will ensure the prevention of late recurrences of syphilis in the patient himself. While only a small percentage of syphilitics develop paresis yet this small percentage accounts for about one out of every ten new cases committed to insane hospitals. They live an average of from two to four years and during this time they become progressively more dependent so that they form an economic liability on the state of no mean importance.

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Discussion

Dr. Max E. Witte, Clarinda—Because of my work the presentation of this paper has been of exceeding interest to me. So far as the neuropathology is concerned I do not presume to say one single thing. I agree in every particular with the Doctor's findings and especially with his conclusions as to the progn-

sis and the treatment that is involved. It will perhaps be of interest to those not familiar with the subject, as general practitioners, briefly to go back to paresis in the early days of my professional work. If you look over the files of the Mount Pleasant Hospital during the '60s and '70s, you will find no mention of paresis, or "general paralysis of the insane" as it was later called. If you suspected that it did not exist, you would perhaps find that under the old classification mania was very prominent, and you would also find mania with complications, so mania with paralysis. I looked up the history of the cases and found that those having mania with paralysis went home only temporarily or very seldom, as the ordinary maniac does, but they invariably died. If they went home temporarily they soon came back and in a little while were dropped from the records permanently. Then the condition was recognized as a special morbid process entirely independent of mania, and various etiologic factors were assigned as the cause of it. At one time alcohol was believed to be very efficient as a causative factor, but those who searched more closely found that in a large number of cases they could also make out a luetic history of a specific infection dating back ten, twelve, fifteen, or even more years, and this finding became so common that the association was thought to be more intimate than was at first suspected. This conception grew, and while other factors were mentioned the consensus of opinion of those competent to judge in the closing decade of the last century culminated in the famous dictum of Krafft-Ebing made at the international congress of medical men at Moscow in 1897, to the effect that general paralysis of the insane, paralytic dementia, or whatever called, was due to "civilization and syphilization." This concept of the disease put in another factor, which additional factor had something in its favor in that we usually find this particular manifestation of syphilis in the man who works with his brain. I would not say it is positively so although it has been said that paresis is a condition allied to tabes dorsalis. It was at that time believed that, having a syphilitic history, the man who worked with his hands would develop tabes dorsalis, whereas the man who made his way in the world through laying stress on his brain would under similar circumstances be liable to have paresis. But while now and then a theory came up that the trouble was dependent upon a special microbic factors, more particularly that it was due to a diphtheroid microorganism similar to the Klebs-Loeffler bacillus, those of us who had considerable experience with the matter were unimpressed by this theory of the etiology of paresis, and, like many other fads, it has long since gone on the rubbish heap. The subject is so large, and, as has been so clearly indicated by Dr. Orton, is so shadowed with gloom, that it is difficult to discuss. By the time the patient comes to the hospital for the insane he is already well advanced in the disease and on the slide downward. He may have remissions and improve for a time, he may even go home, but he is a depreciated personality and in only a

short time he comes back to make his headlong slide to the grave. The mortality of the disease, particularly in the hospitals, is 100 per cent. I was glad to have Dr. Orton refer to the thought of an immunization, through light attacks of lues, to the spirochete that causes the actual trouble. It has been my finding, especially after the Spanish war and our annexation of the Philippines that the boys who came back were particularly afflicted and many destroyed with an especially vicious form of paresis; and by making inquiry and even referring to the army records it was found that they had had an infection so light, with so little of the primary manifestations and without any of the secondary indications of syphilis, that they were not considered as having the disease and the symptoms were either ignored entirely or were so light that the question mark was put after the diagnosis at the time. And even in civil practice we find the same thing—a history of luetic infection dating back some years, but so light that the symptoms were only slight, with short treatment instead of the treatment being prolonged and thorough and searching. The symptoms were so slight that the doctor who had charge of the case would express himself in doubt as to whether the disease was really present. But the spirochetes remained, these people came back, and then when adverse conditions begin to bear down heavily and stress and strain on the nerve tissues become great, this thing develops and hurries him off to an untimely grave. The one hope, as has been stated by Dr. Orton, is in making the treatment of all syphilitics thoroughgoing and following it up, and particularly giving early treatment to these people who might have paresis in the future. In this way something can be accomplished with antiluetic treatment. As to the early symptoms, this is where the general practitioner finds his work cut out for him. So far as I have been able to find, almost without exception the early indications are those of a neurasthenic condition which has been rather stubborn for a while, but nothing was thought of it, and the trouble has dated from that time. Therefore, whenever I have been consulted in regard to a neurasthenic condition that has been persistent and is not due to other causes underlying it, I have advised a search for luetic infection with a view perhaps of diagnosing incipient paresis.

Dr. Tom B. Throckmorton, Des Moines—I am sure that the essayist has given this Society the very best dissertation on the question of general paresis that this body has perhaps ever heard. In the past it has been my privilege to have had an opportunity to sit at the feet of men, both from a didactic and from a clinical point of view, who were masters in the line of neuropsychiatry. But I am satisfied that Dr. Orton's address has summed up and given to us a resume that far surpasses anything it has been my opportunity to hear. I would ask Dr. Orton whether he has had any experience in the method advocated by Dercum, the so-called drainage method, in the treatment of lues of the central nervous system, and its influence upon the remissions in cases of general paresis. And now as we have present with us today

a colleague who knows far more of syphilis of the nervous system than I do, and who, as professor in one of our large institutions, has been in close touch with the subject, I am going to ask, Mr. Chairman, that you request Dr. Archibald Church, our guest, to participate in the discussion of Dr. Orton's paper.

Dr. Archibald Church, Chicago—It is with very real pleasure that I have opportunity of saying a word, because I wish to express thorough commendation of the presentation of this subject by Dr. Orton, which, as Dr. Throckmorton has already indicated, is a gem. When I first was interested in this particular subject of paresis the whole psychiatric world was divided into two camps as to whether it was or was not syphilis, or whether it was or was not the result of syphilis. I remember that in my college teaching I required three to four lectures for a discussion of the syphilitic possibility of general paresis. Of course this was before Schaudin had discovered the spirochete or Wassermann had made his epochal contributions relative to the reactions of the blood or Noguchi had found the spirochete in the lesions. But we were all struck then as we have been since with the fact that the great majority of cases of general paresis have very insignificant early manifestations of syphilis, so much so that in the large majority of cases of paresis you will get no history of the primary sore or secondary manifestations, partly because they are insignificant and partly because the patient cannot give a reliable history. I think a word can be said on the possibility of a variant of the spirochete which gives it a tendency to develop paresis. For instance, in locomotor ataxia, if the wives develop brain syphilis almost invariably it is of the general paretic form, and the brain manifestations of locomotor ataxia are also almost invariably of the paretic form. Again if there is paresis in the husband you are likely to find paresis in the woman, if she develops mental disturbance. It would seem that there is an intimate relation between these conditions when they are transmitted one to the other. Of course you are familiar with cases such as have been described especially in the French literature where a number of individuals syphilized from the same source have developed the same cerebral manifestations; for example, one instance in which four men were syphilized from the same source, practically at the same time, one developing locomotor ataxia and afterwards paresis, two paresis directly, and one developing a cerebrospinal syphilis. Another thing is true: That in all the infantile and adolescent cases of general paresis we formerly found and still find that they are the offspring of syphilitic parents. The argument that the spirochete undergoes modifications by long residence in the host perhaps serves to explain its resistance to our remedies. But I think a more definite explanation is in the location of the spirochetes. In general paresis the organisms are extravascular and we cannot readily reach them by vascular channels, nor are they on the membranous surfaces; therefore we cannot reach them with our anti-spirochetal remedies. I am one with Dr. Orton when he says that

in late cases of paresis it is practically useless to institute full radical antisymphilitic methods of treatment. My own observations are that in many cases of paresis you can secure a partial remission and a prolongation of the clinical history and consequently of the agony and distress of all concerned. Unless the patient is observed in the very early stages I do not advise these intensive antisymphilitic treatments. If the case is in the very early stage I am in hopes that in spite of the serological findings and specific diagnosis it may be amenable to the proper treatment, but if the patient has developed full somatic manifestations of the disorder I believe in withholding those remedies which prolong a pitiable existence.

Dr. Orton—Dr. Witte has referred to the phrase civilization vs. syphilization. I feel that the history of syphilis will scarcely bear out this association. You will find in the literature of syphilis that there was wide argument many years ago as to the source of syphilis, whether American, or European. You will find three distinct opinions: One that it was originally American, one that it was European in origin, and one that it was present on both sides of the ocean before the time of Columbus. I had opportunity to participate a number of years ago in an examination of the contents of Mound-builders burials that were undoubtedly pre-Columbian, and there we found many strikingly diseased bones. Bones under ground 500 years or more do not give good histological pictures and yet the distribution and type of the lesions was entirely consistent with syphilis. The entire setting of that material was pre-Columbian, and I think there can be no doubt from the archeological and very little from the pathological standpoint that this was pre-Columbian syphilis. The reason the question of origin arose with so much vigor, particularly among the French syphilographers, was the outbreak of syphilis throughout Europe following the Neapolitan wars, known as the Neapolitan outbreak. This came on just after Columbus and his sailors returned to Europe and took on a virulent form with extreme manifestations. It was very much more active than anything they had seen before, and the belief prevailed that it was a new disease brought back from the new world. But it was probably merely a new strain to which the European population was not specifically immunized. The question of both the severity and type of lesions is intimately linked with both the strain of the invading spirochete and the resistance of the host. Replying to Dr. Throckmorton's question as to drainage, we have used the drainage method quite freely. I have run a moderate series of salvarsan cases, with and without drainage, in parallel, selecting relatively comparable cases, and have seen no differences whatever in results. With regard to Dr. Church's discussion, I do not know exactly how to start to answer his remarks. There are so many points that might be brought up along this line. In the first place Dr. Church emphasizes conjugal paresis, and the development of juvenile paresis in the offspring of paretics.

One would expect the children to inherit much the same resistance as their parents and hence to manifest much the same reactions. This would not be true in conjugal paresis but the chance incidence of high resistance in both husband and wife especially as they are usually of parallel stock would be expected, Kraepelin has pointed out that the reverse condition occurs. That African strains which cause chiefly skin lesions in Africans when implanted into Europeans frequently result in neurosyphilis. Further not infrequently, in conjugal syphilis we may be dealing with a spirochete of reduced virulence through long residence in one individual but let me emphasize again that I do not consider the virulence of the parasite to be the prime factor nor yet the resistance of the host. It is probably neither of these factors alone but the balance between them that determines the severity of the infection. It is when a spirochete of moderate virulence but not sufficiently active to bring out a florid reaction invades a host of moderate resistance, i. e., without resistance enough to accomplish a complete cure that the conditions are set for the mild early manifestations and the long latent period which seem to be so characteristic of the syphilis that precedes paresis and for the modified histological reaction which differentiates paresis from cerebral syphilis. I would like to differ with Dr. Church's statement that paresis is resistant to treatment because the spirochete is in a less accessible location in the body. I am convinced from my histological studies of paresis that the primary seat of invasion of the brain is the mesodermal tissues of the perivascular spaces. This is exactly the locus of spirochaetal activity in many gummata and very closely associated with the area of infiltration in endarteritis. Moreover as I have pointed out syphilitic aortitis is the histological counterpart of paresis and is apparently just as resistant to treatment. The spirochete in early gumma is just as inaccessible as in early paresis.

TUBERCULOSIS OF THE CORNEA AND SCLERA*

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Ocular tuberculosis has been known for almost a century. It was first recognized when tubercles of the choroid were observed by surgeons dissecting bodies of persons who had died of miliary tuberculosis. Jaeger in 1855 was the first to observe these changes in the living by the use of the ophthalmoscope. However, knowledge of tuberculosis in general was very vague at that time. It was 1882 before the minute pathology of the disease was accurately described and during that year Bumgarten by the use of the microscope discovered the tubercle bacillus. Two years later Robert Koch proved this bacillus to be the eti-

ological agent in tuberculous lesions and successfully performed inoculation experiments with isolated cultures which he had succeeded in growing on culture media. There are many types of the bacillus, the most important recognized are human, bovine and avian. Human beings are only known to be susceptible to the human and bovine types; of the lower animals cattle and hogs are especially susceptible to the disease, rabbits, guinea pigs and rats are susceptible to artificial inoculation only, and do not contract the disease when living under natural conditions; chickens, pigeons, pheasants and turkeys suffer from the disease, while ducks and geese are exempt.

Tuberculosis of the cornea and sclera is a secondary manifestation of intra-ocular tuberculosis; thus infection from the uveal tract spreads through the filtration angle along the pectinate ligament to both cornea and sclera. Infection in this area frequently is seen in the form of a sclerosing keratitis, episcleritis, or if the cornea be principally involved we may have a form of interstitial keratitis, or there may be the formation of deep seated discrete opacities of the cornea. Treacher Collins¹ mentions the selective destructive action of the tubercular toxins on elastic tissue, thus in tuberculous iritis the posterior surface of the cornea is readily attacked, the disintegration of Descemet's membrane occurs, and the disease then attacks the deeper layers of the substantia propria of the cornea.

Primary infection of the cornea or sclera occurs only as the result of injury, or as an extension of the disease in a case of tuberculous ulcer of the conjunctiva. Parsons² does not believe that such a thing as primary tubercle of the sclerotic exists, and the opinion seems to be quite general that all ocular tuberculosis is secondary to disease elsewhere in the body. Many successful experiments resulting in the production of an eruption of tubercles in the cornea on guinea pigs and rabbits by direct inoculation have been recorded, although the tissue is very resistant to infection and many attempts with virulent cultures result in failure. The cornea is not a good culture media and unquestionably primary infection of the cornea is of rare occurrence. Greef³, however, reports a case of primary inoculation of the cornea from the fingernail of a tuberculous patient. The parenchymatous type of corneal involvement has been attributed to the action of tubercular toxins, rather than to the local action of tubercle bacilli, but the real nature of this complaint can only be determined by the use of tuberculin tests or by animal inoculation.

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Verhoeff⁴ found that by injection of dead tubercle bacilli into the vitreous or anterior chamber of rabbits, he could produce in two or three months lesions in the cornea-scleral region resembling episcleritis or sclerosing keratitis. In some cases lesions appeared in the cornea, iris, choroid, and even in the retina and on Descemet's membrane. These experiments are confirmatory of his theory that tuberculous keratitis is due to an infection of the aqueous humor where immune bodies are wanting, reaching the cornea through the filtration angle. The bacilli reach the latter from the blood from ciliary processes, and are then carried to the filtration angle whence they pass to the cornea and sclera, or from the aqueous to other internal structures of the eye. In regard to this theory he says: "It will be noted that this theory necessitates the assumption, as yet unproved, that tubercle bacilli may pass from the vessels of the ciliary body into the aqueous humor. The evidence for the theory however, is so strong, it seems to me, that it may be regarded sufficient to establish this assumption as a fact. It is known that bacteria may be excreted by the kidneys, so there is no reason why they cannot be excreted by the ciliary processes. If this is so, it may be asked why tubercle bacilli are not excreted in cases of active tuberculosis. This is probably due to the fact that here the conditions of immunity are different, so that when bacilli get into the blood they are either quickly destroyed or immediately produce lesions wherever they happen to lodge, which in the eye is most often in the choroid. It may be also asked why other organisms are not excreted into the aqueous humor. The answer to this is that there is no evidence that under certain conditions of immunity, this does not happen, or in fact that other forms of iritis, uveitis or keratitis may not be produced in this way". Another interesting theory is that of Luedde⁵ who advances the idea that infection of the eyes comes from infection being carried to the nose and sinuses rather than through the general circulation. He was led to this conclusion by finding that by injection of tuberculin in ocular tuberculosis, a nasal reaction is seldom absent. He maintains that if tubercle bacilli are carried into the general circulation in sufficient amounts that some are likely to strike the eye, we might expect their development in many other tissues of the body producing miliary tuberculosis and a fatal result. To confirm this view, experiments were made on rabbits, some of which tended to prove the theory from a clinical standpoint, but these experiments were not extensive enough to be conclusive. Although this method of invasion might

account for ocular infection in some cases there is a great mass of clinical and experimental evidence which convinces us that at least a vast majority of eyes that are infected become so through the general circulation.

Tuberculosis of the eye may be either acute or chronic. The acute cases usually represent the form of disease found in the interior of the eye, as in diffuse tuberculous choroiditis, acute choroiditis or acute iritis. Such cases are rare and are apt to run a rapidly destructive course resulting in blindness or death of the patient from systemic disease. Chronic ocular tuberculosis more often manifests itself by affecting the tunics or coats of the eye and appear as a scleritis, episcleritis or keratitis which may also be associated with iritis and cyclitis. These run an extremely slow course, are seldom or never fatal, one or both eyes may be involved and following frequent recurrences healing always occurs and most frequently with good visual results. In almost all cases signs of tuberculosis in other parts of the body are wanting.

The frequency of ocular tuberculosis was not recognized until after the general employment of the tuberculin test for diagnostic purposes, and much experimental work had been done. A review of the medical literature and standard textbooks in ophthalmology of thirty or forty years ago shows the absence of tuberculosis as one of the causes of scleritis or episcleritis, yet we do find a scrofulous diathesis mentioned as one of the causes of interstitial keratitis. Age seems to have some bearing, the disease appearing most frequently in young adults or those nearing middle life. Torok⁶ in reporting one hundred cases had twenty-one of scleritis and sclerosing keratitis, eight of interstitial keratitis, and nine of deep keratitis in his series, making 38 per cent of his cases having the principal involvement in the cornea and sclera, and none of these patients were over fifty years of age. It is well known that ocular tuberculosis is practically unknown in infants. Knapp⁷ calls our attention to the frequency of tuberculous scleritis appearing in young, fat, well nourished women who appear to be otherwise in the best of health. Verhoeff⁸ observes that one eye is usually involved at first and the other almost always becomes sooner or later affected, he also mentions that the disease almost never occurs where well marked clinical symptoms of systemic tuberculosis are to be found. In going over our own records of new patients extending back several years, I find that in approximately one out of every 4,000 eye patients treated for all ocular complaints, we have been able to obtain a focal reaction from tuber-

culin injected subcutaneously, and in an equal number we have made the diagnosis on clinical symptoms, history, or presence of active tuberculosis elsewhere in the body, which would make it unwise to inject a large dose of tuberculin. This percentage I think is somewhat less than is usually reported from clinical centers in the east. In some European clinics a few years ago as high as one out of every 200 eye patients was reported to have eye disease due to tuberculosis but a focal reaction was not obtained in this number or thought necessary at that time.

The pathology shows under the microscope the typical changes found in tubercles elsewhere in the body. However, in corneal lesions the bacillus has been demonstrated in but very few cases. In the sclera the bacillus is found more often.

The symptoms of tuberculous keratitis may appear in the form of small circumscribed opacities in the various layers of the cornea, these enlarge and become vascularized and at first show but slight signs of inflammatory reaction, there may also be small discrete spots on Descemet's membrane. A small percentage of cases of interstitial keratitis are tuberculous, and these are to be distinguished from the syphilitic form by means of the tuberculin and Wassermann tests together with other signs of syphilis or tuberculosis, or there may be a mixed form, and have both syphilis and tuberculosis in the same patient. According to Arnold Knapp this mixed form is more apt to appear with superficial greyish infiltrations, which turn yellow, break down, forming ulcers which become vascularized and heal. In atypical forms of keratitis especially of a chronic nature, tuberculosis should be suspected. In tuberculous keratitis the opacities are in the form of spots and not diffuse, and may be subepithelial. The disease runs a very chronic course, is more apt to be found at times of life when syphilitic keratitis is least likely to occur. Iritis and cyclitis are usually found in a mild or severe form associated with the keratitis and even involvement of the choroid, retina, or vitreous, may occur but these are not likely to be detected, due to the opacity of the cornea, making fundus examination practically impossible.

In scleral tuberculosis we have a congested area which soon shows distinct vascular prominence, usually red and painful, which disappears entirely in time. In sclerosing keratitis, however, permanent tongue-like opacities remain. Small transparent vesicles sometimes may appear in the episclera, these soon disappear and occur in the vicinity of the larger elevations near the limbus. Posey⁹ considers the appearance of one of these small transparent nodules in a case of scleritis

as alone sufficiently conclusive evidence of the tubercular nature of the process. Fuchs¹⁰ however does not consider these transparent nodules to be of tuberculous origin. In tuberculous scleritis and episcleritis other manifestations of the disease are usually to be found in the iris, pectinates, ligament or cornea. In deep scleritis the process in the sclera is followed by slate-like discolorations. Here too, the whole anterior segment of the eye may be affected, and the scleral foci is only a part of severe intra-ocular involvement. There is a tendency in tuberculous scleritis for frequent relapses, mild lesions entirely disappear and then recur again. Suppuration rarely occurs.

The diagnosis of tuberculous scleritis and keratitis depends largely upon focal or general reaction from use of tuberculin. Before the diagnostic application of the tuberculin test, the tuberculous nature of many of these lesions was not recognized. There is the characteristic symptomatology to direct us in the diagnosis, but unless supported by the use of tuberculin tests the true nature of the suspected scleral or corneal lesions cannot be determined as they appear, as already mentioned, in most cases on persons in whom systemic or general tuberculosis cannot be demonstrated. The tuberculin reaction is probably the most reliable guide we have, if a focal reaction is absent even when the general response is present, the diagnostic inference is only one of probability. A local reaction is shown by increased injection of the conjunctival blood-vessels, lachrymation, photophobia, sensation of foreign body and pain. Diagnosis is to be made from other forms of scleritis and keratitis due to other causes, such as rheumatism, syphilis, menstrual disorders, injuries, neuropathic disturbances and other changes due to general or local disease. A sclerotic nodule in an episcleritis when situated particularly close to the margin of the cornea might be taken for efflorescence of conjunctivitis eczematosa. The sclerotic nodule never appears quite at the limbus, and the conjunctiva can be moved over it, while eczematous nodule is soon converted by disintegration into the conjunctival ulcer, a thing which never occurs in a scleral nodule. In regard to phlyctenules which some believe to be due to tuberculosis, it is known that other conditions than tuberculosis will cause their appearance, and a tuberculin reaction can be had with equal frequency in patients who do not have phlyctenules, and as yet no one has reported focal reactions from subcutaneous injection of the diagnostic dose of tuberculin in phlyctenulosis.

The prognosis is good in almost all instances,

as has been said, the disease usually appears in adult life, and in people who otherwise appear to be in good health. The acute forms, however, are an exception, but these are more rare and appear in connection with the general miliary form of the disease, which soon causes the patient's death. If other tuberculous involvement, as in the iris and choroid are present, good visual results are not always obtained, even where the progress of the disease is arrested. In the parynchematous type dense corneal opacities are apt to result which interfere with vision. In the chronic types which is the form of ocular tuberculosis in which we find almost all cases with principal involvement affecting the cornea or sclera, we seldom have other signs of systemic tuberculosis, so the prognosis for life is good. Recurrences of the local involvement are common, but impairment of vision is not apt to be marked even in corneal cases, as the corneal scars are usually marginal, and these are marginal because we have the primary source of invasion from this point, and also there is much more marginal than central cornea to become infected.

A few years ago the treatment of ocular tuberculosis was that laid down by the general surgeon of that time; namely to excise tuberculous tissue wherever found, we know now that it is seldom if ever necessary to remove a tuberculous eye. The treatment at present is as conservative as that of tuberculosis elsewhere in the body, rest, feeding, fresh air, and injections of tuberculin. Local measures such as atropine, dionin, ointment, and hot fomentations may be used but in most instances local measures are not indicated and consequently of little or no avail. The use of tuberculin should be in extremely small doses, slightly less than is required to create a reaction. That its use may be actually harmful if too vigorously pushed is the belief of clinicians who have had any considerable experience with its use in treating ocular tuberculosis. Derby¹¹ reports one instance where both eyes were lost, and another where one and possibly the other eye lost, from giving too large doses of tuberculin.

In conclusion I wish to call attention to the following points. First—Ocular tuberculosis is relatively rare in its occurrence in ophthalmic practice. Second—We can only be positive of the tuberculous nature of an eye lesion when a focal reaction is obtained. Third—Tuberculosis of the cornea and sclera is usually chronic in nature, secondary to intra-ocular infection, subject to recurrent attacks, and is seldom found in patients who manifest other signs of tuberculosis. Fourth—Tuberculosis affecting the cornea and

sclera being chronic, is the type of disease best adapted to the use of tuberculin injections for treatment.

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INTRA-OCULAR TUBERCULOSIS*

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The literature on intra-ocular tuberculosis dates back to a paper wherein Manz describes his first recognized case of tubercular choroiditis in 1858. Although Jager described his pathological findings in 1856 setting out clearly tubercular involvement of the choroid. Two additional cases were reported by Manz in 1863 and one by Bauch in 1866. The papers appearing upon the subject since then have been numerous and the cases have been usually carefully studied.

All layers of the choroid are subject to invasion although the deeper structures are likely to be first involved and the earliest point of attack will, very probably, be along the course of one of the choroidal veins or less likely, along the wall of an arteriole. The local invasion may be part of a general, chronic, tubercular condition or it may be of the miliary type and vigorously acute.

All writers agree that miliary tubercles are very commonly found in the choroid in acute general tuberculosis. Carpenter and Stephenson believe they are present in 50 per cent of cases of general tubercular involvement. Bauch places the percentage at eighty and Conheim found them present in all of the eighteen cases carefully examined by him.

Any tissue of the eye, even the crystalline lens may be attacked, although the lens of course very rarely. Primary non-traumatic tuberculosis of the eye structures is very rare and is confined to exposed parts such as the lids, conjunctiva, cornea and lachrymal sac. In traumatic cases the infection is carried into the ocular structures by the penetrating body and any tissue may, fol-

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lowing a penetrating injury, become the seat of a primary lesion.

It is well to remember that a primary tubercular attack upon the deep structure of the eye, will very probably be perniciously active and destructive and that the caseation and necrosis present will permit of no better prognosis than probable enucleation at a comparatively early date.

On the other hand, attacks that are essentially chronic, may be limited to a single tissue of the eye, may have exacerbations running over months or even years, and then become passive with no symptoms either subjective or objective; and then, with little or much provocation, may suddenly become again progressive and destructive, and this too in an eye which had been supposedly healed.

So distinctly are these recurrences to be kept in view, that authorities give us the statement that one can not be sure at any time during the life of the patient, that the disease will not again become active.

The extent of the invasion has to do with its behavior and in this connection it is well to recall, as stated by Jackson in his A. M. A. Journal article in February, 1920, that the typical focal lesion of infection is the single tubercle and that the crowding together into one large mass of "many tubercles, has tended to obscure the real character of the disease by raising issues and causing symptoms that were incidental and non-essential". He observes too that a single tubercle is seldom recognized and although much has been learned from the microscopic study of the isolated tubercle, "there are important lessons still to be learned by the study of the evolution of such a lesion".

The tubercle present in the ocular fundus varies in dimensions, being 0.1 to 1 mm. or larger. It can there be watched often from its beginning to its complete involution. In fact the fundus of the eye affords the best possible location for studying an isolated tubercle or a collection of tubercles en-masse, and the advance or recession of tubercular activity in the fundus may in many instances, with patience and persistence, be carefully observed.

It may be well to recall in passing that in a tubercular invasion of the cornea following a tubercular uveitis the attack will in its earlier stages be limited to a definitely restricted portion of the corneal tissue. It is well to remember too that when scleral involvement following a tubercular uveitis has gone on to ulceration, the preauricular and sub-maxillary glands will usually be found invaded.

Iritis T. B.—There is no age at which a tubercular involvement of the iris may not occur, although this condition is essentially a disease of youth. A single tubercle only may be present or a number may be disseminated in such form as to resemble very closely a neoplasm of the iris.

Tubercular iritis, according to Finnoff may not always be clinically diagnosed from other forms of chronic iritis; and tubercle bacilli, found in sections of the diseased tissue under the microscope, may alone make the diagnosis positive. Again, sections of the suspected iris may not reveal the bacilli because of their being so few as to be overlooked.

In miliary tuberculosis, small yellowish or grayish elevations characterize the attack and these elevations are not restricted as to location in the iris structure. They may remain as separate and distinct elevations for a long time, or they may remain passive for a time and then become suddenly acute and destructive. On the other hand attacks may be viciously acute, aggressive and destructive from the beginning, involving in quick succession the entire ocular structures and resulting in destruction of the eye ball, perforation of the scleral wall or even a meningitis.

The chronic attacks upon the iris occasion frequently nothing more than visual annoyances such as opacities due to detachment of the iris pigment or deposits on the posterior cornea.

In Stock's experiments on rabbits as recorded in the encyclopedia he "found that the first symptoms noted in the iris, after the injection of diluted mixtures of tubercle bacilli into the blood, was a general thickening of the iris tissue, without unusual thickening of the blood vessels. Three or four days later small grayish masses appeared in the iris tissue. Some animals showed a generalized hyperemia of the iris with the formation of new vessels and a generalized appearance of granulation tissue".

Stock and Tooke contend that "a predilection of a site for the tubercle does not exist, and that it may appear at the pupillary margin, at the middle of the iris, or at the filtration angle, and clinically it is often associated with involvement of the cornea and ciliary body".

The confluent or conglomerate tubercle as set down by Parsons "Resembles a tumor of the iris, it is yellowish white in color and often small nodules are seen surrounding the larger mass. This growth remains confined to the anterior segment of the globe and the supra-choroidal space is only rarely involved in the process. In this class perforation of the eyeball most often occurs at the angle of the anterior chamber be-

fore involvement of the choroid or vitreous takes place”.

Tubercular Cyclitis—That tuberculosis is a very frequent cause of cyclitis is proven by the experiments of both Stock and Verhoeff, and the fact is born out as well by clinical experience.

Because of the position of the ciliary body and the intimacy of its relations with the iris and the choroid, these structures, together with the retina are at the same time very commonly involved.

The symptoms of cyclitis of tubercular origin are in no way different from those due to an attack from any other cause and a differential diagnosis based upon the local symptoms alone would be difficult if not impossible. (The tuberculin test or the antisiphilic treatment would of course be instituted as a diagnostic aid. Perforation of the globe following tubercular involvement of the ciliar body is rather frequent.)

Tubercular Retina—Tubercular attacks upon the retina very generally first come under the oculist's notice because of an obscuration of vision, more or less extensive, coming on rather suddenly, and accompanied or preceded by a sense of discomfort or possibly slight pain. This visual impairment is usually evidence of a hemorrhage of greater or less extent, these intra-ocular hemorrhages of tubercular origin are now recognized to be much more frequent than was believed to prevail a generation ago.

From the time of Manz' article in 1890, hemorrhages into the vitreous due to tuberculosis, particularly of the walls of the veins, has been covered in articles by Jackson, Knapp, Spencer, Fuchs, Axenfeld and many other careful observers.

Fuchs and others describe the process as usually first observed along the course of the veins, beginning as a perivasculitis with round, giant and epithelial cell infiltration.

There is little or no external evidence of the serious internal invasion in the early course of the attack and it is only when a circumcorneal or ciliary injection of rather mild degree is observed, more particularly just prior to a hemorrhage into the vitreous, that the first external evidence of the retinal invasion is discoverable. This ciliary injection is in no way dissimilar to that observed in cases of iritis from other cause.

There is too, usually an absence of general systemic symptoms although tubercular lesions are occasionally discoverable in other tissues.

A symptom having more than a chance connection with the retinal hemorrhages, is the epistaxis which frequently is a precursor of this condition or having been completely checked for several days again recurs just preceding an intra-ocular

attack. At the same time it is well to remember that the coagulation time and the blood-pressure are generally normal.

The epistaxis in its behavior supports strongly the contention of Luedde in his recent fine paper in the American Journal of Ophthalmology that the ocular manifestations are in very many instances altogether dependent upon a focus of infection, the seat of which is at some point on the nasal mucosa or which involves some nasal accessory sinus or other near by tissues and that no actual tubercular attack is being made upon the tissues of the eye, the toxins from the active lesion alone being responsible for the ocular symptoms. Luedde, quoting Collins and Mayon states, "That the actual tuberculous lesion may not be situated in the ocular tissues in which the symptoms appear, the latter process being caused by toxins diffused by the former". (We must not however forget the statement of pathologists that tubercle bacilli may pass through a membrane without any discoverable lesion.)

The first evidences of retinal hemorrhages are likely to be subjective and are described by the patient as rather small specks, either stationary or floating and though usually dark or black, they may appear of a reddish hue.

Usually these evidences are, within a week or two followed by a sense of discomfort within the eye which, although annoying, does not amount to a severe pain; and with this discomfort the vision is found to have been suddenly and more or less extensively impaired, depending upon the extent and the location of the hemorrhage.

Some physical strain or violent exercise is most commonly the immediate cause of the vessel rupture, and of course every type of physical effort will be interdicted when once a tubercular attack upon the vessel walls has been discovered.

Finnoff makes the observation that, where recurrent hemorrhages take place into the retina and vitreous, with improvement of vision between the attacks, the presence of tuberculosis should be suspected. This is especially true if the condition be found in young persons.

The hemorrhages if restricted and small in amount will most likely become absorbed, so that little or no discoverable trace remains visible with the ophthalmoscope and this is almost equally true after repeated small hemorrhages. Not only is there remaining little or no visible evidence of the hemorrhages, but the vision is very likely to suffer only slightly, if at all, in this type, unless the immediate region of the macula is involved.

On the other hand, if a larger perforation of a vessel has occurred and the hemorrhage is of the

massive type which bursts into the vitreous or displaces it forward, the vision is likely to be greatly or completely obscured. In this type too, impairment of the vision is not in the nature of a temporary inconvenience, soon to pass away through absorption of the blood exudate, with consequent resumption of the retinal function, but it is likely while receding in extent and fading at the margins, to be nevertheless, a very fixed and a very permanent lesion. The permanency of the lesion is due to connective tissue formation from the hemorrhagic mass, resulting then of course in retinitis proliferans.

The subsequent contraction of the connective tissue bands frequently cause detachment of the retina, quite the same as is to be observed in retinitis proliferans having any other source of origin.

Although only very few tubercles are usually present, Parsons states that the number may reach sixty or seventy. They are distributed well about all parts of the fundus although more numerous about the region of the disk.

The tubercles, if seen in the beginning are first observed as small, whitish-yellow specks surrounded usually by a rose colored zone with little pigmentary change, and, if of the smaller type they show under the microscope, according to Findley, to be "Just a nodular collection of lymphoid cells; while the larger ones have the typical structure of a miliary tubercle, consisting of the giant cells with peripheral nuclei, surrounded by epithelioid cells and a peripheral zone of small celled infiltration. The vessels in the affected area undergo degenerative changes, the center of the tubercle is often caseous and extravasation of blood may occur".

Griffith points out the great similarity between a proportion of the tubercles and recent, exudative, choroidal patches; and makes the observation that they would ultimately resemble a disseminated choroiditis were the patients to survive long enough. It is to be remembered too, that miliary tubercles are always secondary to advanced tuberculosis.

It is very probable that one eye only will be found involved in the chronic form of tuberculosis although both eyes may be attacked.

A threatening tubercular area may become quiescent because the zones surrounding the giant cell mass with peripheral infiltration tissue is prone to contract into scar tissue and may thus completely arrest the inflammatory process.

From the conditions above set out the process of destruction passes into the adjacent and surrounding structures until the vitreous, retina, ciliary body and sclera are alike involved; scleral

staphyloma, one or more are soon observed, the entire eye becoming a tubercular mass with perforation and further spread of the disease.

Diagnosis—It had been the habit of ophthalmologists until very recent years to suspect tuberculosis in the eyes of only those who were known to be suffering from tuberculosis in the glands, the lungs or other susceptible tissues and accompanied of course by temperature, loss of weight and other symptoms of general serious attacks. Every one has however seen tubercular involvement of the eye structures without active evidence of attack elsewhere in the general tissues. And certainly one is no longer justified in assuming that the probability of tubercular attack upon the eye is remote, simply because evidence is not at hand of active tuberculosis in other structures.

Certainly in every uveitis where the etiology seems obscure the possibility of tuberculosis must be considered and to this cause Hessberg assigns first place, especially attacks of iritis in which disease he names tuberculosis as causing not less than 50 per cent. In attacks upon the iris the nodules will probably be found within the iris tissue along the smaller vessel walls and with tendency towards the filtration angle.

Finoff you will notice locates the usual point of attack in the retina as being in the walls of the small veins and Axenfeld found true tubercles in and surrounding the walls of many veins while all arteries were entirely free.

While nodules upon the iris due possibly to tubercular toxins may be clearly discernable at a fixed point at one examination, at a subsequent examination only pigmented marking may bear evidence of their former location the nodules having entirely disappeared although the pigmented markings may remain permanently.

Tuberculosis about a joint rarely predisposes to disease of the uvea, while an attack upon the lymphatic glands especially the mediastinum or mesentery is quite prone to precipitate a metastasis to the uveal tract.

Inflammatory lesions of the globe and hypotonus have been recognized as diagnostic symptoms of great value but not at all constant. Jackson on the other hand, has found that choroidal congestion, as evidenced by a rather dark-red and patchy appearance, may be the basis of plus tension and this condition, in chronic uveal tuberculosis, in his experience arises early.

That a primary tubercle of the choroid progresses more rapidly than when it develops in a tuberculosis subject has been generally recognized.

Since Von Hippels paper in 1904—tuberculin

in the diagnosis and treatment of ocular diseases of tubercular origin has become more generally used and more favorably regarded with the succeeding years, until at the present time many hold that it is to tubercular eye diseases what the Wassermann and salvarsan together are to syphilis. Dr. John Peck reporting a case makes this statement, "I know of nothing else that gives results at all comparable to tuberculin in eye tuberculosis", and Weilder makes the statement that "The ophthalmologist who is not using tuberculin as a diagnostic agent and as a therapeutic measure is not practicing modern ophthalmology".

In the obtainable records of cases of tubercular attacks upon the eye in the practice of Des Moines' ophthalmologists, an overwhelming proportion have been attacks upon the coverings of the eye and the outer coats.

Episcleritis heads the list with corneal ulcers and phlyctenular keratitis rather frequent. Recognized attacks of tubercular uveitis have on the other hand been relatively very infrequent, amounting in reality to only 7 per cent of the total. All these cases have, too, been placed in the hands of Dr. Peck whose treatment, generally with tuberculin, has proven very satisfactory.

There can be no doubt, however, that very mild attacks of tubercular fundus trouble and of iritis as well may, because of the more easily obscured character of the trouble, be not infrequently passed as having a doubtful etiology, and Luedde in his Journal article states that; "The preponderance of clinical evidence, and the successful treatment of these cases as clearly shown throughout ophthalmic literature for the last fifteen years, is too firm a foundation to be cast quickly aside, because clinical reports can not be accepted as final evidence in the laboratory".

The opinion is held by the larger per cent of able men, that tuberculin is, in selected cases, by far the most valuable therapeutic measure we now possess in the treatment of tubercular eye troubles; and by stimulating the production, by the body cells, of the "anti-bodies" we are rendering to nature, the greatest possible service in her defense against the tubercular attack. In fact, it may almost be literally true, that in the treatment of tubercular ocular troubles, we are limited in our therapeutic resources to rest, fresh air, nourishing food, midriatics, possibly the x-ray, or radium and tuberculin. It is of course understood that a competent general practitioner will have charge of the patient's general condition.

EYE, EAR, NOSE AND THROAT SYMPTOMS DUE TO DENTAL PATHOLOGY*

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A considerable number of symptoms and disturbances of function in the eye, ear, nose and throat are due to pathological conditions of the dental organs and owing to a lack of dissemination of the facts in these cases, many of them are being overlooked.

The researches of Billings, Rosenow and others have given us a vantage ground from which we can view focal infection with a fair degree of comprehension, although the last word has not been said on that subject, but very scant attention has been shown other and important variations from the normal which, occurring in the oral cavity, directly produce serious results or establish conditions that act as predisposing factors in the establishment of disorders, that require surgical interference for their alleviation or for which there is no remedy.

Of primary importance in the consideration of the subject under discussion, is an understanding of the anatomy and physiology of the fifth nerve and the other cranial nerves, with which it is in direct communication. It must be borne in mind that the fifth nerve is not only both motor and sensory, but is one of special sense as well and that it communicated directly with the third, fourth and sixth cranial nerves, through the vidian with the seventh and through its ganglia with the hypoglossal and the sympathetic system. I venture to assert that irritative stimulation of any branch of the fifth nerve may produce reflex phenomena in any other branch of that nerve or of any nerve communicating with it.

Symptoms caused by dental irritation may be, motor, such as spasm. For example, tinnitus caused by excitation of the tensor tympani muscle.

Wurdeman reports a case where there was contraction of the pupil, congestion of the papilla, pain back of the eye and diminution of vision, which were relieved when part of a dental broach projecting one-twelfth of an inch from the lingual root on the same side was discovered and the tooth removed.

Paresis, as in weak accommodation associated with pyorrhoea, apical abscesses or impacted molars.

Asthenopia of dental origin is so common as

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to warrant the routine examination of the oral cavity in every case.

To illustrate—R. B. age thirty-six, complained that he could not read over ten minutes without pain in the eyes and headaches.

Wearing of his full correction amounting to plus 0.75 sphere right and left fitted under atropine utterly failed to afford him any relief. Oral examination revealed a bad case of pyorrhoea and the removal of his diseased teeth quickly enabled him to read as long as he wished without any glasses at all.

Mrs. A. M. complains of seeing double and of being unable to do any close work. Examination shows a moderate degree of hyperphoria with astigmatism against the rule and a hypophoria of fifteen degrees. Laboratory examination showed a slight leucocytosis. Wassermann negative. She was found to have several devitalized teeth with apical abscesses. These were removed and without other treatment the double vision subsided in a few weeks.

Sensory—of which the most prominent is pain. Pain occurring in any of the parts supplied by the fifth nerve always demands an examination of the oral cavity.

Ear pain occurring as a reflex in peritonsillar abscess or in an erupting third molar is familiar, but on the other hand irritation of the auditory canal may cause toothache.

De Priesse of Brussels reports a patient, who had pain localized in the lower second bicuspid, the pain radiating over the corresponding side of the head. This condition had existed for three years, during which time seven healthy teeth had been removed and other treatment instituted without results. An aurist found a plug of wax $1\frac{1}{2}$ centimeters in length in the auditory canal on the affected side and removed it, after which the tooth pain entirely ceased. It is common to have pain suggestive of sinusitis resulting from the irritation of infected pulps in vital teeth or from apical abscesses.

The bizarre manner in which reflex pain may develop from dental pathology is astonishing.

A devitalized molar may produce occipital pain simulating meningitis or the same tooth may likewise cause pain in the temple, lower turbinate or antrum on the corresponding side. There is in fact no physiological geography which enables us to diagnose the site of the dental irritation from the distribution of the reflex pain.

Anesthesia. It is not uncommon to find small areas of anesthesia on the face, over or near the site of an apical abscess. I saw one case where there was a distinctly outlined area, which was blanched perfectly white and entirely anesthetic

about 10 mm. in diameter, on the right cheek of an otherwise healthy man. Investigation showed an apical abscess of the upper first molar immediately under the anesthetized area and removal of the diseased tooth was followed by complete return of sensation and color in the affected skin.

Disturbance of function, usually coexists or is a part of motor or sensory manifestations.

Lacrymation, photophobia, nasal, hypersecretion and in fact the whole train of hay fever symptoms may result from dental disorders, where there is no demonstrable pathology in the eye or nasal cavity.

Among other disturbances of function due to oral pathology nasal obstruction claims a large place.

A feature of nasal obstruction, which has been largely neglected by the rhinologist is the influence played by the eruption of the teeth on the development of the face. Many cases of mouth breathing, where adenoids are not a causative factor are due to a narrowing of the nasal cavity secondary to improper eruption of the teeth.

Haskins reports six cases, where there was narrowing of the arch with malocclusion resulting in nasal obstruction, which were all corrected and the mouth breathing stopped by having the arch widened.

Butts says "It is a fact of fundamental importance that dental regulation of the erupting teeth and the proper formation of the dental arch with proper occlusion, have a primary affect on the shape of the nasal cavity and the nasal septum."

Bowing of the nasal septum and ridges along its base calls for dental regulation during the period of development in childhood, and herein lies a great hope of preventive medicine. Again, there can be no doubt that in well marked cases of faulty eruption, the result is a traumatic occlusion, which is followed by inflammation of the peri-cementum which, in turn, acts as an excitant of reflex phenomena and is the initial element in the development of focal infection. Another source of trouble is the rarefying osteitis, that is frequently left behind after an ordinary extraction. We must be on our guard where patients, who have had their teeth all extracted, still complain of toothache, headaches and whose blood count still shows evidence of focal infection. The subject of focal infection is so large as to preclude anything like a thorough consideration of the topic within the limits of this paper, but it is of such importance and it is so frequently the prime factor in the production of serious consequences, as to warrant a brief reference to illustrative cases.

Apical abscesses and pyorrhoea can at the same

time overwhelm the patient's powers of resistance and act as irritative lesions to stimulate reflex manifestations, in the special sense organs. But in cases of focal infection, we cannot limit the dental diagnosis of this condition to those instances, where there exist devitalized teeth, which the x-ray shows to have areas of rarefaction at the roots.

Indeed some of the worst cases are those having infected pulps in vital teeth, which are so far as the patient is aware, entirely sound.

Among the direct affects of apical abscesses and infective processes in the structures adjacent are photophobia, lacrymation, persistent conjunctival hyperemia, iritis, cyclitis, scleritis and retinal hemorrhages.

Retinitis and diminished vision have also occurred where there was complete cessation of all symptoms following the removal of infected teeth and there is no doubt that many faucial inflammations and laryngeal disorders are the result of direct extension from alveolar abscesses or pyorrhea.

L. T., aged nineteen years, came in October 26, 1920, complaining of pain and loss of vision in the right eye. The classical symptoms of iritis were present and after atropinizing the eye, inspection of the nasal cavity, the dental organs and the throat was carried out. The nose was found to be normal, the teeth were in almost perfect shape, there being no devitalized teeth, no pyorrhoea, no malocclusion and only one small gold filling to be found. Tonsils had been successfully removed. The blood count was as follows: Red cells, 4,660,000; white cells, 15,500; neutrophils, 74 per cent; small monos, 22; large monos, 3; eosinophiles, 1.

He was put on the regular treatment for iritis, with good results, the eye clearing up rapidly, only to relapse time after time. I finally decided that in view of the proximity of the filling in the one tooth, that the patient had an irritated pulp, which was the source of the infectious process. He was persuaded to have the tooth removed. The tooth was then split and a culture made from the pulp showed a streptococcus infection. I consider this of vital importance as the patient had never had any pain or tenderness in this tooth, which was vital, and I felt at the time, that I was taking something of a chance in its extraction. However, following this procedure, the eye immediately cleared up with complete restoration of vision and has remained normal ever since.

M. T., aged forty-six years, was suddenly seized with pain and rapidly diminishing vision in the left eye. Examination showed an area of deep scleritis, about 4 mm. above the cornea and the vitreous was filled with blood, while vision was reduced to perception of light.

The blood count showed a slight leucocytosis. Wassermann negative. The only sources of infec-

tion that could be found were some devitalized teeth. These were removed, the eye rapidly cleared up, the blood in the vitreous becoming entirely absorbed and the vision with correcting lens returned to its former acuity of 20/15.

The frequency with which suppurative inflammations of the maxillary antrum are found to be due to a direct extension of an apical abscess render it unnecessary to report illustrative cases.

It is enough to say that 22 per cent of the antrum abscesses are of dental origin.

What I would emphasize is the necessity of cooperation between the members of our specialty and the dental surgeon. Where a cursory examination of the mouth does not reveal gross evidence of dental pathology, it is not sufficient to say that reflex symptoms or focal infection are not of dental origin. A most searching examination of the oral cavity is necessary before we can rule out the dental structures as the etiological factor in the production of many most troublesome and serious conditions.

SUPPURATIVE PLEURISY*

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Suppurative pleurisy is acute pleuritis with pus in the pleural cavity. By common usage the term empyema has, when not otherwise specified, come to signify this condition. It may occur as a direct result of the introduction of pyogenic organisms through a penetrating chest wound; it may result from organisms transmitted to the pleura by the blood stream; or it may occur by extension from pneumonia or lung abscess, from an infection in the chest wall, or from some suppurative abdominal process; e. g., liver abscess. When secondary to a pneumonia or subphrenic abscess it may occur by rupture into the pleural cavity but more probably does occur by transmission of the infecting organisms through the lymphatics. It is possible that a certain number of sterile serous exudates become purulent as the result of organisms introduced by the aspirating needle but with proper aseptic technique this should not occur.

Extensive bacteriological researches have shown that the pneumococci and streptococci are the most common bacterial invaders. That the tubercle bacillus is a possible etiologic agent must not be forgotten, and in cases not definitely associated with a pneumonia or influenza one should attempt to ascertain whether or not the process is tubercular.

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Except in cases of penetrating wounds of the chest wall, or the rupture of a subpleural, subdiaphragmatic or mediastinal abscess into the pleural cavity, suppurative pleurisy is a progressive process, passing through the stages of congestion and serous effusion into suppuration, with thickening pleuræ and more or less extensive fibrinous exudate. The rapidity of development of suppuration being dependent upon the number, virulence, and type of bacteria and the bodily resistance of the individual.

Keene says, "The symptoms of empyema are, in general, those of a septic toxemia plus those of a pleural effusion and a compressed lung." For a terse descriptive generalization the writer does not feel qualified to improve upon this phraseology.

The onset of suppurative pleurisy may be sudden, resembling pleurisy with effusion but more severe, the pains may be of a stabbing character or more generalized; on the other hand there may be no pain, little or no cough and the onset insidious. When secondary to a pneumococcus pneumonia it is often very gradual while in the post-influenzal streptococcic pneumonias the onset may be very rapid, pus developing in four or five days, the condition coexisting with the pneumonic process.

The objective symptoms of suppurative pleurisy are: a septic temperature curve, with chills or chilly sensations and sweats; diminished pulmonary excursion on the affected side (a most important diagnostic point), with rapid respirations, short and often jerky in character; marked pallor with secondary anemia; dyspnoea upon exertion, possibly orthopnea; displacement of the heart and liver; cough, usually dry and non-productive; apparent enlargement of the affected side of the chest, with more or less obliteration, possibly bulging of the intercostal spaces. There may be edema of the chest wall and distension of the subcutaneous veins on the affected side. In some cases there may be a pulsation of the chest wall over the fluid synchronous with the heart beat (pulsating empyema) or a distinct bulging at one point (empyema necessitatis).

Upon palpation and percussion there is commonly marked tenderness over the pus. Abdominal distension and rigidity usually unilateral, but not associated with emesis, may suggest acute peritonitis. Tactile fremitus is usually absent although in the streptococcic variety it may be felt due to the distended areas of lung in the lobular pneumonia. The percussion note over the fluid is usually flat and there is a definite feeling of resistance transmitted to the fingers, which is probably the most valuable single sign of fluid

in the chest. A friction rub may be heard early, disappearing as fluid collects. Reappearance of this sound may indicate absorption of the fluid or extension of the process. The auscultatory findings are similar to pleurisy with effusion. The breath sounds are usually faint or absent in adults but in children are apt to be tubular.

In pneumococcic empyemas we have a polymorphonuclear leukocytosis; during the preceding pneumonia this has been rather high—20,000 to 30,000 per cu. mm. and when it fails to decrease in proportion to the temperature it is suggestive of a suppurative process in the pleura. In the streptococcic empyema there may be an actual decrease in the number of white cells per cu. mm. The blood cultures are usually sterile.

Exudate aspirated from the chest varies greatly from the clear sterile fluid of serofibrinous pleurisy to the characteristic thick greenish yellow pus of pneumococcic suppurative pleurisy but even when not frankly purulent microscopically the presence of polymorphonuclear pus cells leaves no question as to its character. The microorganisms are more easily demonstrated in the streptococcic than in the pneumococcic variety. In tubercular cases the fluid is more thin and watery and contains caseous masses; the tubercle bacilli may be demonstrated, although not invariably, by smear or by animal inoculation tests.

Roentgenology is of great assistance in the diagnosis of cases of suppurative pleurisy. It will not make the diagnosis automatically, but with the aid of fluoroscopy and stereoscopic plates much of value may be learned as to the existence, location and extent of purulent accumulations, and whenever possible should be used as a guide in making exploratory punctures. Displacements of the heart and liver are clearly shown.

The withdrawal of fluid from the pleural cavity by aspiration is the only positive proof of its existence. The character of the fluid withdrawn and the results of its examination in the laboratory determine the organisms responsible for the suppuration.

In some cases there is a bilateral suppurative process with a prognosis exceedingly grave. There are several clinical varieties which vary more or less from one another in their mode of onset and prognosis. We have the pneumococcic variety usually developing during the convalescence from a lobar or broncho-pneumonia; the streptococcic type due either to the streptococcus hemolyticus or the streptococcus viridans associated with a broncho-pneumonia, manifested by profuse sweats and prostration out of proportion to the physical findings; suppurative diaphrag-

matic pleurisy when encapsulated and small may be difficult of detection. The x-ray is usually of help here. Encapsulated suppurative pleurisy is often interlobar as well as interlobular. Empyema of any of the clinical varieties may be associated with tubercular disease or the suppurative process may be due to the tubercle bacillus.

Diagnosis of suppurative pleurisy presents no great difficulty when all or most of the characteristic signs and symptoms are present but many atypical cases and many of very insidious development may cause the presence of a purulent fluid in the pleural cavity to remain undetected for a considerable time. This is especially true in children when the presence of a large quantity of fluid in the chest may closely simulate consolidation with loud tubular breathing and transmission of voice sounds. These findings were also common in the cases developing during the influenza epidemic in 1918-19. Acute lobar pneumonia may cause difficulty in differential diagnosis early, before consolidation is complete when the breath and voice sounds are suppressed, and during resolution when the loud bronchial breathing has become less pronounced; massive pneumonia is liable to be especially confusing.

Bronchiectasis, interstitial pneumonia, and thickened pleura are to be excluded; in these the dullness is more patchy in distribution and the heart and liver are not displaced. Hydrothorax, hemothorax and chylothorax may be excluded by careful consideration of the clinical history, objective symptoms and physical findings. Pericarditis with effusion must be excluded in a suspected left empyema; in this disease there is absence of displacement of apex beat, distant heart tones, dyspnoea out of proportion to apparent amount of fluid and usually a characteristic friction rub.

In doubtful cases, careful consideration of the clinical history, review of objective symptoms, physical and laboratory findings, the use of the roentgen ray and diagnostic thoracentesis will enable one to exclude the other conditions and arrive at a correct diagnosis. Diagnostic puncture is especially valuable and a dry tap is of much less consequence than the failure to diagnose the presence of a purulent effusion. The needle should be introduced close to the upper border of the rib in order to avoid the intercostal blood-vessels and minimize the danger of hemorrhage.

The prognosis of suppurative pleurisy varies according to the type and virulence of the infecting organism. It is most favorable in the pneumococcal type and less so in the streptococcal as in

the latter type the process is part of a generalized septicemia or such a condition develops during the course. Metastatic abscesses are not infrequent. The prognosis in tubercular cases is dependent upon the extent of the tubercular process in general, but is in the main unfavorable, fistulae usually result when drainage is necessary. When death occurs from suppurative pleurisy it is usually due to a generalized septic toxemia and systemic infection.

Pneumothorax, interstitial pneumonia with suppuration, pleuropericarditis, endocarditis, metastatic abscesses, and general peritonitis may be complicating conditions. Rupture of an empyema into a bronchus may occur; an encapsulated collection of pus may rupture into the general pleural cavity.

Cases not operated upon or operated upon late in the course of the disease are liable to more serious permanent pathological changes; greatly thickened pleurae with retraction of chest wall; formation of pus pockets between the layers of thickened pleura and permanent carnification of the lung; following these changes bronchiectasis may develop.

In the treatment of suppurative pleurisy there must be an early recognition of the presence of pus, an exact localization of the pocket or pockets and a determination of the causal organism. The treatment has for its aim complete removal of the purulent effusion from the pleural cavity and the gradual re-expansion of the impaired lung.

Aspiration has a very definite place in the treatment of pleural effusions and may result in a cure, more particularly in children, but in adults too great delay is dangerous and thoracotomy with drainage is indicated.

In treating suppurative pleurisy developing after streptococcal pneumonia aspiration is especially valuable. To relieve the symptoms due to rapidly accumulating large amounts of intrathoracic fluid, repeated punctures may be used while waiting for the pneumonic process to subside, the pleural surfaces to become less absorptive and the general condition of the patient to improve sufficiently to warrant thoracotomy and drainage. In dealing with the cases developing during the influenza epidemic of 1918-19, too early operation resulted in extreme shock and sometimes death. The preliminary report of the empyema commission published in the J. A. M. A. August 3 and August 10, 1918, describes with great clarity methods of handling this class of cases.

Drainage of the chest by the open method or by one or another of the trocar-canula operations, the use of the Carrel-Dakin technique and nu-

merous varieties of these basic methods all have their advocates.

While on duty at Camp Taylor, Kentucky, the writer had opportunity to observe a method devised and directed by E. A. Codman of Boston, and carried out in the empyema wards of the Base Hospital by Doctor Klaus which seemed to combine the advantages of exclusion of air from the pleural cavity with those derived from free drainage through a large tube. The tube used in these cases had a sleeve of dental rubber dam extending about $1\frac{1}{2}$ to 2 inches beyond the outer end which acted as a valve to prevent the ingress of air. By comparison with other cases those operated by this method seemed to show less shock and to have a more rapid convalescence. A typical intercostal incision down to the pleura was made; if a portion of a rib was to be excised, as was usual, the parietal pleura was carefully separated from the posterior surface of the rib, avoiding breaking through into the pleural cavity, and the requisite length of rib resected, observing the same care; a purse string suture was then placed in the musculature; an incision made in the pleura sufficient to admit the forefinger of the left hand; the specially prepared drainage tube was inserted as the left forefinger was withdrawn, the purse string suture was drawn tight, the intercostal muscles and skin were then approximated by suture and the tube sutured to the skin margin, vaseline gauze strips applied to the chest wall about the incision and a large piece of dental rubber dam applied with an adhesive strip across the top and one on either side but not at the bottom. The rubber dam stitched to the tube and the second piece smoothly applied to the chest wall thus formed a double valve permitting free expulsion of the pus with each inspiration and preventing the entrance of air into the chest cavity during expiration.

In so far as the essential principles are concerned none of these methods should be classed as new but the opportunity for observations of large groups of empyema cases during recent years permitted comparative studies of methods and extensive clinical, bacteriological and pathological observations which have done much to clarify our knowledge of the subject.

Graham in an article published in *Surgery, Gynecology and Obstetrics* in 1920 (XXXI 60) reports a method of computing from determination of vital capacity of the lungs, the size of opening in the chest wall which will be compatible with life. (This is applicable to cases in which extensive adhesions and immobilization of the mediastinal partition have not occurred.)

Novocain anesthesia is sufficient in practically

all of these cases although, in the more severe operations for chronic empyema, gas and oxygen analgesia or anesthesia may be required; ether is also used by some surgeons.

The site of operation is chosen with a view to obtaining the most perfect drainage.

The operative procedure in cases of chronic suppurative pleurisy is a subject in itself and must be based upon rational procedures directed at the pathology present. These chronic conditions should not occur unless there be some complicating pathology in the lungs or an associated tubercular process.

The treatment of tubercular suppurative pleurisy is also a large field for discussion. In general it may be said that these cases should not be operated upon unless some definite indication arises. Aspiration may be necessary in which case a small calibre needle should be used and trauma avoided to the greatest extent possible. Should a mixed pyogenic process develop drainage must be resorted to even though a persistent fistula is to be expected and usually develops. Breathing exercises to promote re-expansion of the lung without over distending the functioning lung are to be judiciously used as the drainage progresses.

During the entire course of the disease the hygienic and dietetic management is most important and full, nourishing and easily digested food is required.

Symptomatic medication is used throughout the course in controlling the cough, relieving the pain, supporting the heart and maintaining elimination.

No elaborate routine or apparatus can be substituted for the exercise of good surgical judgment in the choice of time and method of treating each individual case. Competent surgeons may achieve equally good results by widely different methods but they will always do so by keeping clearly in mind the pathology of the condition and directing the treatment in a rational manner for its relief.

Discussion

Dr. Alanson M. Pond, Dubuque—This is a very good paper, one that bears the stamp of individual practice so far as the writer is concerned. He has an idea and has the courage to express it. Fortunately that idea conforms, it seems to me, to the best practice of other men. During the last few months of the war there probably was no subject that occupied the attention of clinicians more than suppurative pleurisy—empyema. At first we had to overcome the tendency of the time which seemed to take the form of being in a hurry to get in and do something radical. In other words, the course of operative procedure was not considered very much, they wanted to get in action quickly. The result was that many

thoracotomies were done that were not justified and the patients did not survive. After the first few weeks of this result a commission met in conference and decided that in the treatment of suppurative pleurisy the best procedure was first to aspirate the fluid contents of the chest to relieve the embarrassment of respiration. There was no given time in relation to the onset of the disease when this aspiration should be made, any more than one can set the time by the clock when to operate for appendicitis. Let the physical indication be the time to relieve the accumulation of fluid in that thorax. If the fluid removed is serous you have the hope that it may be an exudate which is the result of stasis due to circulatory disturbance and in all probability will not become infected. If the fluid is cloudy, milky, or even thicker than that, you are pretty sure that it is an exudate the result of an infection causing inflammation, and it is no doubt high in protein content and abounds in microorganisms. Under these conditions the surgical procedure that gives the best results, at least in my experience, is aspiration and repeated drainage through the needle of this fluid as it accumulates, relieving the patient of respiratory embarrassment and carrying him over the time of the acute toxemia accompanying the onset of the provoking cause. When we got to a place where the fluid was thicker and did not flow through the tube we did not hesitate to close up and seal it and wait. Then we did not hesitate to do a thoracotomy. The conditions that developed after deciding on a thoracotomy were very similar, they did not vary much. We found that the exudate which had become organized either on the lung substance or on the parietal pleura was soft, easily rubbed away apparently and not of the fixed and fibrous type. If, however, there was not a successful or complete drainage, we found that the type of this plastic exudate had become almost fixed, it was fibrous in character, and even thoracotomy did not relieve it. That was the type of case that indicated an incision of the lung structure to relieve it of its own adhesions holding it in position. So far as the etiology, symptomatology, and differential diagnosis are concerned, the paper is so complete that it leaves very little for your discussor to comment upon. I am reminded of a story that Dr. Tom Throckmorton tells me of a very respected doctor he occasionally went out to see, and who told him: "If you don't get the pus the first time you put the needle in you are pretty sure to get it the second or third time you go in." And no doubt the man was honest. Besides disinfecting the skin I have found it of advantage to hold to the part a pledget of cotton wet in pure phenol. This aids in maintaining asepsis, besides becoming a skin anesthetic par excellent.

Dr. Spilman—Dr. Pond has emphasized the importance of exercising judgment as to the time for operation. It is the same problem that is involved in waiting for the proper time for operation in the pneumonic cases, wherein the pus is inclined to be of a thick, heavy, greenish type from the time of its discovery. And in those cases early operation is in-

dicated—that is, early in your knowledge of its presence. In the streptococcic type of case, thick pus develops rather slowly and delay is necessary in order to permit the patient to be in a proper condition to stand the operative measures. I just want to repeat the one phrase that no elaborate routine or apparatus can be substituted for the exercise of good surgical judgment in the choice of time and method of treating each individual case.

DISEASES OF THE ISCHIORECTUM*

ANTHONY P. DONOHUE, M.D., Davenport

The ischioirectum is a remote and much neglected region of the human body. There are some peculiarities found here which do not obtain in any other region of the body.

The ischioirectum sustains the weight of the contents of the peritoneal cavity. It is the gravity center of nearly three-fourths of the weight of the body. The force of this weight has considerable influence in determining the diseases present here.

The constant and perpetual presence of bacteria in this field makes disease easy and cure difficult.

The tissues of which this region are composed, viz., adipose and loose connective tissue predispose the region to disease and make healing quite impossible.

Subject to traumas and sudden changes in temperature, increase the per cent of infections liable to arise.

A lack of sensory nerve supply to the non-peritoneal portion of the rectum continues into the ischioirectum and makes possible the presence of disease with little cost in pain.

Couple all of these facts and the fact, that the ischioirectum lies adjacent to the field of excretion and to the sexual organs and bashful exposition becomes the most obstinate factor in keeping this portion of the body disease free.

The levator ani is the support of the pelvic outlet. The brunt of the weight here is borne by this muscle, which one proctologist likes to call "the diaphragm of the pelvis". This is evidence that the muscle is poorly named. It is one of the important muscles of the entire body. It is both voluntary and involuntary.

From the body of the ischium and pubic bones to the sphincter muscles it carries the weight of the rectum and the intestines. Above the muscle, lies very little adipose and connective tissue. Below lies the large mass of adiposes and areolar

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tissue, one inch from sphincters to ischium and two inches from skin to muscle, and two inches in length. The inside boundary of this space is the internal and external sphincter muscles. The outside boundary is the body of the ischium, and the upper boundary the levator ani muscle; the base is the skin. The internal sphincter muscle is composed of non-striated muscle fiber; the external of striated; the one involuntary and the other voluntary. The space of one centimeter between is more perceptible to the feel than to the eye. That this space between the two muscles which are of a different character is the site of entrance of foreign bodies into the ischio-rectal region, there is little doubt. Fish bones and sharp objects have been found imbedded here.

My first case report is one in which a piece of glass, spindle shaped, one inch long and one-fourth inch wide, became imbedded in the ischio-rectal fossa just inside the internal sphincter below the levator ani muscle. I have no doubt the glass passed down the entire alimentary canal till the sphincters were reached. The action of the internal sphincter stripped the glass of all food particles and the point became directed in the space between the two non-synchronous muscles and was forced into the ischio-rectal fossa. Its presence very shortly caused an abscess, *communis colli bacillus*, which was opened; a permanent blind fistula resulted of course. The external sphincter muscle was cut and the foreign body removed. Drainage was instituted to the bottom of the wound. On removal of the glass it would seem that healing would soon follow. Such is never the case in the ischio-rectal fossa. The price of success here is long and laborous care after the operation. During operation the whole field was evulsed; contraction and involution of these muscles make a closed of what was an opened field.

The best authorities in this field of operation say that 50 per cent of operations are failures. This is not the opinion of one but many authorities. In what other field has surgery failed in 50 per cent of its cases? You cannot do an operation here and then stand by. Laparotomies may be dressed once after operation but these cases require daily care, from three weeks to three months. Efforts have been made to lower the percentage of failures by cutting out the infected tracts and healing by first intention. Excision is successful occasionally in a few well selected cases. Incising all tracts coupled with the proper after-care would reduce the percentage of failures materially. The nature of the after dressings, I would say, is more important than the operation preparation itself. These wounds are not packed to suppurate but dressed to granulate.

A colon bacillus infection of a pendulous ab-

domen produces a condition quite parallel to an ischio-rectal incision operation. The immense amount of fatty tissue is slow to heal and requires constant and long continued care. Such an infection in a ventral hernia recently taught me the similarity of the two conditions.

A case of dermoid cyst in the ischio-rectum recently came to my attention. A small opening the size of a pin inside the external sphincter, with a constant discharge, led on opening to a ball of hair alongside of the internal sphincter muscle, posteriorly. Removal with the constant aftercare led to a complete cure. Severing the external sphincter is practically always necessary to allow good drainage. Its presence seems to lock up the secretion and it is sure to close the opening. Cutting the muscle rarely leads to fecal incontinence.

There seems to be a prevailing opinion amongst surgeons that no credit is due any one for an operation and cure in the region of the ischio-rectum. When the operation is done but a small fraction of the labor required to cure the case is over. If the sphincters are cut, special care must be given to the cut ends or permanent fecal incontinence will follow. On account of the inaccessible region and the involution of the parts and the fact that a circular muscle is severed we can safely say that the labor of care is increased many many times. That only the severing of the external sphincter is necessary in a great majority of these cases is our good luck.

The third case is the ischio-rectal fistula which may be taken as a type of fistula cases. The late Dr. Murphy once said that the operation for the cure of fistula gave him more concern than any other operation he undertook. Wherever they may be and whatever kind, they are difficult to cure. A six volume reference book on surgery very lightly passes over this subject in these words: "The cut tissue should be packed with a little strip of iodoform gauze for a week to prevent bridging over and a reproduction of the fistula. It is often sufficient if the finger is merely passed over the cut, every day or two, to prevent premature surface healing". In contrast to this language we hear the protologist Gant say: "Many physicians and surgeons believe it easy to operate and cure fistula-in-ano, but the protologist, who sees many cases, knows this is not true and that a perfect operative technique and painstaking post-operative treatment are required to cure fistula".

Mr. W. H. is a well living man of thirty-five years. An ischio-rectal abscess which, when opened, developed into a pronounced fistula with drainage to the inside of the external sphincter muscle. This

fistula existed for over a year, during which time patient tried x-ray and cautery in an effort to get cured. A first degree burn, three-quarters of an inch square in the center of which is the opening of the fistula, was the result. After the usual incision operation the long laborious after care was begun. In an effort to give this burn time to heal the bowels were locked up for twelve days. On several other occasions this same thing was done and while it causes the patient no particular discomfort, yet I do not believe it is of any value. Outside of three or four days at the start the bowels are better, kept soft and regular. This case healed in eight weeks time, in two months came back with a sore throat and in four more weeks died of pulmonary tuberculosis.

This brings us to the important question of tubercular fistulae. Is the fistulae the primary consideration, the beginning, the focus of the later general infections. In most cases the ischio-rectal fistulae is not considered primary. Ten per cent of all ischio-rectal fistulae are tubercular, and they are cared for surgically and healed just like other fistulae. That this part is the entering wedge of tuberculosis, is not without reason. The venous stasis, the generally low grade tissue, the liability to injuries of all kinds as fissures and ulcers, the infected crypts, etc., all tend to make for tubercular growth. Gant maintains that 5 per cent of tubercular fistula are primary and 95 are a sequence of other tubercular foci. In the case just referred to, after the infection in the throat the fistula broke down and became unyielding to treatment.

In this country very little is written on rectal diseases. You find very few articles in medical magazines and clinical reports. In London in 1835 a hospital; St. Mark's, was built and is today maintained for the sole purpose of curing rectal diseases. We have the report of Wm. Mayo that this hospital is flourishing and is doing good work up to date in curing these diseases. Like the tonsil, the appendix and the famous right upper quadrant, the rectum as the focus may yet have its day. The new work on the colon anus and rectum by Gant is an evidence of this tendency.

In summing up let me say that this paper is not a study in histology, etiology or pathology but rather to point out and establish:

First, that this field is neglected by both patient and surgeon.

Second, that 50 per cent of failures is enormous in the face of other such brilliant surgical successes.

Third, that the attitude of the surgeons to this field is one of disdain and contempt, for he rarely points with pride to a list of brilliant successes here.

Fourth, that whatever the operative technique, long, persistent and rational after-care is the thing.

Discussion

Dr. Coral R. Armentrout, Keokuk—I would like to emphasize just a few points on the one subject of rectal fistula including abscess, which we possibly see more of than any other condition connected with the ischio-rectum. It seems to me the first consideration should be the proper preparation of the patient. In these cases you must have the thorough emptying of the bowels before any operation can be done, and have them thoroughly emptied out so that they can be locked up for several days afterwards. The next thing, and to my mind the most important point of all, is a thorough dilatation of the sphincter muscles so that they are completely tired out. Then in probing this cavity, if you are sufficiently careful and are willing to take time enough, with a common small probe you can nearly always find the small opening which nearly always exists through the mucous membrane and into the rectum itself. As the essayist has said, this fortunately is usually between the two sphincter muscles. And you must cut all the tissues on this probe, being careful that these are cut not more than once or you will certainly have incontinence. Another point is that they should always be cut across the grain of the fibers, not in a slanting direction. After thus carefully operating, your troubles are just beginning because it takes from six weeks to three or four months of careful attention to these cavities after they have been thoroughly opened and are cared for each day, for healing to take place.

DISEASES OF THE MYOCARDIUM

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The indiscriminate use of the term chronic myocarditis to denote disease of the myocardium is not only misleading, but inaccurate; in its strict interpretation, it indicates inflammatory disease of the myocardium. Degenerative diseases of the myocardium are far more common than are those due to inflammatory processes, and it is evident that for the accurate diagnosis and for the intelligent management of patients suffering from disease of the heart muscle, a differentiation of type with special reference to cause is necessary. An exact differentiation is of course not always possible, yet much of the inaccuracy resulting from clinical indifference can be eliminated.

DEGENERATIVE DISEASES OF THE MYOCARDIUM

Myocardial Disease Associated with Arteriosclerosis—Probably the most common form of myocardial disease is that resulting from arterio-

sclerosis (coronary sclerosis). The underlying pathologic process is usually very insidious, often becoming quite marked before symptoms are manifest. The sclerosis may chiefly involve the larger coronary arteries, or the terminal vessels alone may be affected. The arteriosclerotic process may result in patent rigid arteries, or more often the lumen of the vessels is encroached on, producing partial or complete occlusion. As the result of these vascular changes, the myocardium does not receive an adequate circulation for all occasions; alterations occur in the metabolic process of its cellular constituents, resulting in actual tissue changes, chiefly fibrosis and fatty degeneration. This results in a tissue which lacks the normal qualities of response to load which is so essential to the efficient heart.

As the sclerotic process advances and the myocardial effects become more pronounced, dilatation occurs, attended by a variable degree of hypertrophy. The resulting symptoms depend on the degree of sclerosis, the degree of vascular occlusion, the rate at which the process progresses, and, of course, largely on the state of the myocardium. In the slowly advancing sclerotic processes the heart often has the opportunity of adapting itself to the changes, and by adequate hypertrophy is capable of carrying on its work quite efficiently for a long time. There invariably are associated arteriosclerotic changes in the aorta and often sclerotic changes in the heart valves.

The arteriosclerotic type of myocardial disease is most common in middle and later life, yet occasionally striking examples are encountered in relatively young persons. Males are more commonly afflicted with the disease than females, and it is usually more serious in the former. The symptoms vary, but may be classified definitely.¹⁹

Typical angina pectoris occurs in about 24 per cent of cases, and presents attacks of retrosternal distress or pain induced by cardiac overload, the pain being variable and frequently radiating into the left arm. At times there is a sensation of impending death accompanying the painful seizures. The attacks usually last a rather short time, and are relieved by immobility and by the administration of nitrites. The average degree of coronary sclerosis and the tendency for vessel obliteration are marked in this group. Coronary embolism is often the final incident in these cases.

Atypical angina pectoris occurs in about 2 per cent of the cases. The symptoms are much like these in the foregoing group, except that the origin of pain is not in the chest; often it is in the abdomen. This syndrome may be confused with

surgical disease of the abdomen,¹⁷ and the supposition that the gall-bladder is diseased is the most common error. The average degree of coronary sclerosis in this group likewise is marked.

Another type of symptoms resulting from coronary sclerosis is that of a progressive myocardial failure unassociated with painful seizures consisting of dyspnea with effort in the early stages, and later displaying the typical picture of heart failure; namely, orthopnea, cough, cyanosis and anasarca. This type occurs in about 26 per cent of the cases. The average degree of coronary sclerosis is usually moderate, with the tendency to vessel patency, and while obliteration of the vessels occurs, it is much less common than in the foregoing types. Coronary embolism does not occur with any degree of frequency.

The progressive myocardial failure type of symptoms is sometimes associated with attacks of angina pectoris, and forms a definite clinical group. It occurs in about 8 per cent of the cases. This group deserves emphasis owing to the fact that objective signs of cardiac disease are very evident in distinction to the angina pectoris group in which cardiac examination may reveal little or no evidence indicative of disease. The average degree of coronary sclerosis is more marked than in the preceding group, but usually less advanced than in the cases in which there is typical or atypical angina pectoris. The tendency for coronary occlusion is quite pronounced and coronary emboli are not infrequent.

In about 40 per cent of the cases there is insufficient subjective or objective evidence of cardiac disease to permit the clinician, with the ordinary methods of diagnosis, to identify the presence of coronary sclerosis. This group is referred to as occult coronary sclerosis. The correlation of clinical data and necropsy findings has demonstrated the necessity for the more careful study of these cases. The occult type of coronary sclerosis, like the other groups enumerated, occurs chiefly in persons in middle and later life, the time when degenerative disease manifests itself. It is therefore important always to search carefully for evidence of cardiac disease in older persons, even though no complaints referable to the cardiovascular system exist. Special methods of cardiac investigation, such as electrocardiography, will aid in identifying cases that otherwise would remain unrecognized. The most common and important graphic abnormality found is the inversion or negativity of the ventricular T wave in certain isolated and combined derivations of the electrocardiogram.^{5, 11, 15, 16} The average degree of coronary sclerosis in this group is only moderate, and there is very little tendency

to vascular occlusion. Coronary embolism is much less common than in the other types.

Cardiac Arrhythmia with Coronary Sclerosis—Probably the most common type of arrhythmia associated with coronary sclerosis is that due to premature contractions (extrasystoles). They may arise in the ventricles, auricles or junctional tissues. The former occur with greatest frequency. Premature contractions are indicative of increased myocardial irritability, and do not necessarily indicate organic cardiac disease. Auricular fibrillation rarely occurs, the incidence being about 2 per cent. Sinus or respiratory arrhythmia is at times observed, especially if bradycardia is pronounced.

Myocardial Disease Associated with Hypertension—Another common type of myocardial disease is that associated with hypertension. The primary and fundamental effect of hypertension on the heart is that of increased work. The increased demand thus created results in myocardial hypertrophy, particularly of the left ventricle. As hypertrophy increases and dilatation occurs as the result of the prolonged cardiac overload, degenerative changes of the myocardium occur. These, in part at least, result from disturbances in the cellular metabolism of the myocardium, which have resulted from hypertrophy, as suggested by Fahr. Concomitant coronary sclerotic changes may occur, enhancing the development of degenerative myocardial processes. It is probable that the stress of hypertension on the vascular system is capable of producing actual anatomic changes largely of a sclerotic nature, particularly in regions in which the stress is great, as at the bifurcation of the vessels, at points of narrowing, and at points where the vessels are unsupported, as at the basilar arteries of the brain, the coronaries and the aorta. Associated sclerotic changes of the valves of the heart and endocardium are often found at necropsy. This type of myocardial disease is most common in males, the sex incidence being about 2:1. The greatest incidence is in the fifth, sixth and seventh decades of life. The symptoms vary, depending largely on the degree of myocardial damage. They may vary from dyspnea and palpitation on effort to the classical syndrome of heart failure. In certain cases, especially those in which coronary sclerosis is marked, angina pectoris is the dominant cardiac complaint. The most constant electrocardiographic changes occurring in this type consist of significant negativity of the ventricular T wave.¹⁶ Brown has recently confirmed this observation.

Cardiac arrhythmia with hypertension—Premature contractions, as in the preceding group, con-

stitute the most common arrhythmia found in hypertension.

White found auricular fibrillation to be an unusual accompaniment of hypertensive heart disease, yet my experience has been contrary to this observation. Records at the Mayo Clinic show an incidence of 28 per cent.²¹ Auricular fibrillation, occurring in hypertension, often occurs simultaneously with heart failure, yet patients are observed in whom this arrhythmia has existed for several years and the heart is still relatively efficient. The efficiency of the heart is obviously directly dependent on the integrity of the myocardium, regardless of the presence of arrhythmia.

Myocardial Disease Associated with Exophthalmic Goiter and with Adenomatous Goiter with Hyperthyroidism—Myocardial disease also accompanies exophthalmic goiter and adenomatous goiter with hyperthyroidism. As exophthalmic goiter and adenomatous goiter with hyperthyroidism are separate and distinct diseases, it is important to appreciate fully the differences that characterize each thyroid disorder.

Exophthalmic goiter is a constitutional disease, apparently due to an excessive, probably an abnormal secretion of an enlarged thyroid gland, shown pathologically as diffuse parenchymatous hypertrophy and hyperplasia. It is characterized by an increased basal metabolic rate with the resulting secondary manifestations, with a peculiar nervous syndrome and, usually, exophthalmos, with a tendency to gastrointestinal crises of vomiting and diarrhea. The cause of the altered pathologic process and activity of the thyroid gland is not known.¹

Adenomatous goiter with hyperthyroidism is a constitutional disease, due to the presence in the thyroid gland of adenomatous tissue which, by maintaining an abnormally high and unregulated concentration of thyroxin^{6, 7, 8}, in the body, causes an increased basal metabolic rate with the resulting secondary manifestations.¹⁰

In both thyroid disorders the factor of increased cardiac work is the major one in producing disease of the myocardium. The constant elevation of the basal metabolic rate and the total metabolism in exophthalmic goiter and in adenomatous goiter with hyperthyroidism, necessitates an increased rate of circulation, and a greater utilization of a unit quantity of blood. The increase in circulation rate is accomplished in two ways: by increasing the frequency of beats each minute, and by increasing the volume output of each beat. There is as yet no practical or accurate method for determining the volume for each beat. Owing to the many extraneous fac-

tors that influence the cardiac rate, the latter is only an approximate index of the increased work cast on the heart. Increased cardiac work leads to hypertrophy of the myocardium, chiefly affecting the left ventricle. Myocardial hypertrophy and dilatation are usually coincidental events, and the dominance of the former largely determines the efficiency of the circulation. The forcible tumultuous cardiac action results from acceleration of rate, and increased force of contraction, both phenomena being in greater part the expression of the elevated metabolism, to which they are due.

In cases of exophthalmic goiter, however, the tumultuous character of the heart beat is more marked for a comparable elevation in the basal metabolic rate than in cases of adenomatous goiter with hyperthyroidism. This suggests the possibility of an increased cardiac irritability resulting from the increased local oxidation and intoxication from the excess of thyroxin, and, in the case of exophthalmic goiter, the irritability may be increased by a change in the composition of the thyroxin molecule. Plummer and Boothby have shown that patients with moderately severe exophthalmic goiter are very inefficient in converting potential energy into any kind of motion, as when walking on a treadmill, they require approximately twice as many net gram calories for each horizontal kilogram-meter as normal persons. In view of the fact that the voluntary muscular system is inefficient, it seems reasonable that the same intoxication would cause a similar degree of myocardial inefficiency. This inefficiency, with the increased output demanded of the heart in its apparently hyperirritable condition, probably accounts for the tumultuous type of rapid cardiac action, and the rather frequent occurrence of cardiac decompensation, especially in cases of long duration. The scope of this paper will not permit the detailed discussion and presentation of evidence supporting the foregoing discussion, the latter are available in a publication by Willius, Boothby and Wilson.

The severity of the resulting myocardial disease in both thyroid disorders is largely dependent on the duration of the thyroid disease. The most common lesions of the myocardium are well marked lipid changes and cloudy swelling of the muscle fibers. Significant electrocardiographic changes, such as negativity of the ventricular T wave, are rare in both thyroid disorders.

The sex incidence in exophthalmic goiter reveals the fact that females are affected more often than males, the ratio being about 3:1. There is also a greater incidence in females in cases of

adenomatous goiter with hyperthyroidism, in which the ratio is about 6:1.

The symptoms attending myocardial disease associated with both thyroid disorders vary greatly and are obviously dependent on the degree of existent myocardial damage.

Cardiac Arrhythmia with Exophthalmic Goiter and Adenomatous Goiter with Hyperthyroidism—Premature contractions occur in about 15 per cent of the patients with both thyroid disorders, and apparently have no special significance. Auricular fibrillation is a frequent accompaniment of both exophthalmic goiter, and of adenomatous goiter with hyperthyroidism occurring in about 23 per cent of the cases. The arrhythmia may be a permanent disturbance or may occur intermittently during the course of the disease.

Myocardial Disease Associated with Obesity—Myocardial disease is common in obese patients, and apparently insufficient emphasis and study have been accorded this important phase of cardiac disease. Not infrequently obese persons become very dyspneic under relatively little physical effort, and this important symptom of cardiac embarrassment is often dismissed lightly, being wholly attributed to the excess weight. It can readily be appreciated that a person, who for a number of years carries excess weight varying from forty to seventy pounds or more, subjects his heart to an enormous cumulative strain. Here again the factor of increased cardiac work plays a very important part. Arteriosclerotic changes also occur often, and in an insidious manner cause degenerative changes of the myocardium.

Fatty degenerative changes in the myocardium are often found at necropsy, as are also fibrous and sclerotic changes. Occasionally necropsy reveals only marked hypertrophy, largely involving the left ventricle. The hearts of obese patients may display an excessive deposit of epicardial fat. The most marked examples of myocardial disease associated with obesity are found in patients in middle and later life, thus clearly emphasizing the hazard of protracted cardiac overload. It is well known that the hazard of surgical operation on obese patients is greatly increased, and that they are very intolerant to infectious diseases, such as pneumonia, the death rate distinctly exceeding that of patients of average weight. The associated cardiac inefficiency is undoubtedly a large factor. The symptoms in this group are dependent on the degree and extent of myocardial damage. Electrocardiography proves of little value unless there is also sclerosis of the coronary arteries.

CHRONIC MYOCARDITIS

Chronic myocarditis (inflammatory disease of the heart muscle) is relatively rare, except when associated with endocarditis. The usual cause is rheumatic fever, and when this infectious disease is responsible for the cardiac damage, the endocardium is invariably involved. Such cases seldom offer diagnostic difficulties, as careful examination discloses the valvular defects. The characteristic pathologic finding is the presence of the so-called Aschoff bodies in the myocardium, that is, areas of perivascular round-cell infiltration. Recently Cohn and Swift in careful electrocardiographic studies of rheumatic fever found evidence of myocardial involvement in 95 per cent of their cases. A small group of cases of rheumatic infection associated with chronic myocarditis, in which necropsy revealed only involvement of the myocardium, have been observed in the Clinic.

In order to justify the diagnosis of myocarditis the pathologic changes must be irrevocably associated with an infectious cause, and they must conform to those resulting from the invasion of microorganisms. The changes chiefly consist of Aschoff bodies, abscess formation, interstitial round-cell or polymorphonuclear infiltration, and parenchymatous changes.

Other infectious diseases unquestionably are responsible for the production of myocarditis, yet they probably play a minor part. Further investigation is necessary to establish this relationship clearly. For example, diphtheria as a factor in the production of myocarditis has been the subject of much interest and investigation, yet definite proof is still lacking. MacCallum's investigations led him to conclude that the actual work of the heart poisoned by diphtheria was fully as efficient as that of the normal heart, and that death occurring at the height of an attack of the disease was not exclusively the result of direct injury to the heart. In contradistinction to this view, Loth concluded that the deaths in cases of diphtheria, due to circulatory failure, are probably referable to injury of the myocardium itself, or its conduction system.

Syphilitic myocarditis must be considered an entity, as the *Spirocheta pallida* has been demonstrated in the heart muscle.¹³ This fact, however, must not mislead one into believing that all cases of disease of the heart muscle with syphilis are of this nature, as often there are degenerative myocardial changes from occlusion of the coron-

ary orifices, resulting from advanced aortic syphilis.¹⁸

The points that need special emphasis are the importance of the correct use of the term "myocarditis" to assure accuracy of diagnosis, and the appreciation of the relationship of myocarditis to infections. Here again, as in the other groups considered, the symptoms depend on the degree of damage to the heart muscle. The most common electrocardiographic findings are those indicative of disturbances of cardiac conduction, significant negativity of the ventricular T wave, and auricular fibrillation.

Arrhythmia with Myocarditis—The most common and important arrhythmia associated with myocarditis is that due to auricular fibrillation, especially in cases associated with mitral endocarditis.

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OPERATIVE TREATMENT OF
FRACTURES*

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About twenty years ago I was beginning to get a chance to do operative fracture work at the Boston City Hospital—frowned on a bit as a young radical, but tolerated because I was showing results and I have kept at it.

About this time Lambotte was doing the same thing in Belgium.

Later came the wild radicalism of Lane and others, who wanted to cut down on everything from Colles fracture on.

The question has been befogged a bit by the general surgeons who knew nothing of fracture work, but were good openers.

We shall never have a history of the calamities which followed.

Lane's trail and the later expeditions of his followers and of the bone-grafters left a trail that might recall the bleached bones that marked the trek of the pioneers of past generations across the flat lands of the middle west.

Now, I think, we have reached a stage in the game when the men who have really learned something about fractures ought to pronounce what the scope of the operative work should be.

Latterly some of these men have met hoping to standardize non-operative procedures and while operative work has not been to the fore in the discussions, yet, and in spite of the fact that nearly all of these men have been operating surgeons (not orthopedists) yet their standpoint has proved curiously conservative and definite and on the whole, very much what I am presenting here.

All men of wide experience covering not only their own work but much referred work, with many cases of end-results not wholly satisfactory, they seem to have come to the conclusion that conservatism has its arguments in fracture handling.

Operative results often good, are not seldom bad, not rarely calamitous.

Operating because one doesn't know how to do the other thing is malpractice.

Non-operative handling of fractures with modern perfected apparatus gives really excellent functional results in the vast majority of fractures.

Operating merely to secure a pretty x-ray, is not justifiable, considering the expense in time and risk.

Doctors, patients, and even the courts may, and must be, taught to estimate results in terms of function, and external appearance also, fairly enough—and not in terms of x-rays. The x-ray is a diagnostic aid and should not be an arbiter.

The dread of facing a result not decorative in the x-ray picture, even with everything else satisfactory, has led to the commission of countless operations, even by honest careful men, and I hate to think to how many calamities.

I do not think myself a pessimist but I happen to be a sort of court of last resort for many people in my little corner and the results I've seen in latter years are a bit saddening.

What we need is a better education in fracture work, better handling of apparatus, better physiotherapy and exercise work in convalescence, not more operating.

Take for example fractures of the shaft of the femur.

No man who is not competent and equipped to apply traction (Buck's or Thomas or Pierson) or skeletal traction—and to apply it right, and to see that it stays right, has any business talking about plates and grafts.

Half our hospitals are insufficiently equipped for non-operative fracture work, but that isn't an indication for operating—except on the superintendent and trustees!

There are many hospitals, let the patient go where there is equipment.

There are fractures that must be treated by operations:

Fractures of the patella with separation.

Fractures of the olecranon.

Fractures of the carpus, irreducible and carpal luxations but not the reducible ones.

Fractures of the radial head—by no means all of them.

Separation of the humeral epiphysis, at the shoulder—and a few shoulder fractures.

Fracture luxation at the shoulder.

Both bones of forearm, a few cases.

Fracture luxation at the hip.

Fractures of the femur—transverse fractures particularly that can't be reduced or can't be held.

Very rarely, fractures of the lower leg.

Fracture luxation of the astragalus.

Rarely tarsal fractures of unclassified sorts.

Really that is about all, so far as fresh cases go.

And as to later cases, mal-unions, and non-unions.

Today we have resources in the way of diathermy and massage and of ambulatory splints that have removed very many of these cases from the operative list.

*Read before the Inter-State Assembly of the Tri-State District Medical Association at Des Moines, Iowa, October 29, 30, 31 and November 1, 1923.

What of plates and bands after reduction?

Justified only if one can not do it otherwise.

Plates and bands interfere with union as a rule, do not promote it, surely, and are called for only in cases not to be held in any other way. Moreover they do not do away with the need for protective splinting. Error in this is often costly.

In practice they are called for in a certain proportion of fractures of the femur, in some forearm fractures, rarely in humerus or tibia cases.

As a rule they interfere with or delay final repair—so much that they should usually come out after fulfilling their function of primary fixation. Most plates and certainly all bands should come out.

What about grafts?

To my mind, all the complicated development of massive grafts, panel-grafts, intramedullary grafts of autogenous or foreign bone has been a failure as far as recent fractures are concerned and only too often in the later ones.

The calamities and the quiet failures are too many, even if not widely published.

The principle of bone-grafting is of real value of course. Here and there "slide-grafts" are wise.

To bridge defects, mass grafts are of value.

For repair in cases of non-union or long delayed union, the work of McWilliams and others, the experience of all of us show clearly enough, I think, that our reliance should be on "chip-grafts", osteoperiosteal grafts of no great bulk, cut from bone of vascular structure, of high growth capacity, with great total superficial area, used to pack into defects in refreshed bone, and to splint under the periosteum across defects.

These grafts work, the massive ones only too often unite at one end, wobble at the other, and wait.

I do not mean to be understood as condemning the big grafts entirely. They are of greatest service in reconstruction problems. What I do mean to say is that their use is limited and that the chip-graft with diathermy and the stimulus of early weight bearing and use are to be our chief reliance in the delayed union cases.

On the whole, then, all the modern trend is in favor of development of skill in the use of equipment in routine fracture work, and toward the limitation of operative work to exceptional cases, to work in fully equipped institutions, and in the hands of men properly equipped, not only as operators but as experienced handlers of fracture cases.

Logically, this would seem to point to the orthopedists as fracture handlers.

Oddly, it doesn't seem to work out that way. Here and there an orthopedist is the man.

Others, concerned with "the chronic treatment of continuing disease" are less suited to the handling of acute cases.

The compromise type of man, the "six-weeks orthopedist" of our war forces, a young general surgeon, intensively trained for a short time in apparatus work is the best type.

However little we like it, all of us are going to have to recognize fracture men if not a fracture service in all our big hospitals if we are to get results.

With us in Boston the men who are coming up, who are getting results, who are going to make progress, are of the type noted—young general surgeons, trained to operate, trained to operate only when operation is needed, trained to work for end-results only, trained to skill in non-operative work, trained to combine eagerness with patience.

We have these men coming up—in Boston the Massachusetts has at least two—at the city I can name three, and every community is going to have them, it is going to have to have them.

Operative work on fractures has a place, permanent, valuable. It has been discredited by the effort of untrained men, facile operators, to throw the whole of fracture work into the operative field where it doesn't belong.

This furore has begun to wane.

We are in position now to evaluate this thing with some accuracy.

Fractures in the next decade are going to be better treated with commensurate results.

In the meantime we may lay down certain broad rules:

Never operate unless the outlook without operation is poor, or unless you can make it better.

Don't operate to get a better x-ray picture.

Keep one eye on form.

Keep both eyes on function.

As to delayed union:

Many need not operation, but skilled treatment.

Others need replacement; often temporary plates; not grafts.

Others need bone stimulus and bridging by bone.

Refresh, pack and splint with small grafts, fix by external splinting.

Few need intramedullary or inlay grafts, live or boiled.

TWENTY YEARS OBSTETRICAL WORK
IN THE COUNTRY*

A. H. SCHOOLEY, M.D., Terril

Obstetrics is that part of the science and art of medicine relating to the function of reproduction. While strictly, it should be applied to child birth or parturition, usage justifies its application to all the phases of reproduction.

The function of reproduction is a closed cycle of events, interposed in the life of a woman, and comprises five periods—conception, pregnancy, labor, lactation and involution.

DeLee asks the question, "Is labor in the women of today a normal function?" And answers his own question by saying, "That it should be, but is not." From incomplete records and reports he estimates that 20,000 women die in the United States every year from the direct and indirect effects of labor. That about 50 per cent of the women that have had children bear the marks of injury, and will sooner or later suffer from them. That annually hundreds of thousands of women flock to the hospitals for the repair of injuries, and for the relief from the effects of disease contracted during labor. That 3 to 5 per cent of the children die during labor.

Someone calls pregnancy a disease of nine months duration. Reproduction primarily is a physiological process, but is beset with considerable danger to the life of mother and child. Following in its wake there is much pathology, and a great many painful and distressing symptoms. We of our profession must ever be alive to use our skill, our knowledge, our judgment, and our influence to prevent and relieve all adverse conditions and symptoms in these worthy patients.

This paper is to deal principally with that phase of obstetrics known as labor, but will no doubt overlap into the other divisions. I am trying to present some facts and figures, and some notions from twenty years of obstetrical work in the country and small town. And I wish you to bear that in mind. Of course one can only touch on a comparatively small number of things in a paper of this kind.

This is made possible by an incomplete record that I have kept of all my cases. These figures and percentages are practically correct, though probably not absolutely correct. It is the first time that I have checked them over, and if you have kept a record and will check yourself up you are sure of some surprises. I

am presenting my own records as they are, and not trying to make a good showing, for if I did so they would be of no value. One thing that impresses me is, "What is a normal delivery? Are all cases not instrumental normal? What is a normal position? Is a breech presentation normal? Are all cases that the mother delivers herself normal, and if she requires help is it abnormal?" I am aware that one exposes himself to criticism in reviewing his cases. To illustrate—I have had three complete lacerations, which is no doubt a higher per cent than many of you have had. Still I am not so sure that you would have had less had you attended these particular cases.

This obstetrical work covers a period from September 1, 1902 to December 7, 1922. It includes all cases for twenty years, three months and seven days. It may be that a miscarriage is not properly an obstetrical case, but we have them and why not discuss them as they give us more worry than a delivery at full term.

I have had 883 cases. Seven hundred fifty-four or 85½ per cent at full term. One hundred twenty-nine or 14½ per cent were miscarriages, or abortions, or premature labors as you may call them.

Of the 129 miscarriages, there were 92 or 71¼ per cent in the first three months. Twenty-eight or 21¾ per cent the 4th, 5th and 6th months, and 9 or 7 per cent from the 7th to the 9th month where there was reasonably good evidence to believe they were premature labors. This shows over 71 per cent occurring before the fourth month. It is no doubt the time that women have done, or do abortion work upon themselves. It also indicates to me that the second and third months are most liable to accidental miscarriages of really unknown causes. I do not know how many were induced. I have a record of a few, but of late years I find the answer to one's questions in that line, as a rule, do not throw much light on a shady subject. I have attended several women in repeated miscarriages, and my notion about some of them is that they were mostly self-induced. Of the 754 at full term, there were 59 or 7¾ per cent instrumental deliveries, and 695 or 92¼ per cent delivered without instruments.

Of the 754 (we are discussing full term deliveries now) there were 40, or 5⅓ per cent delivered as breech. Of the forty so delivered there were ten that required podalic version before being so delivered. Giving thirty, or a little less than 4 per cent, as breech presentations at the beginning of labor.

*Read before the Upper Des Moines Medical Association, Emmetsburg, Iowa, January 9, 1923.

Of the full time cases the second stage was complete in 105 before I arrived. In other words the stork preceded in a little less than 12 per cent and I won in a little more than 88 per cent. I did not check this up from year to year, but in looking over the records it appeared to happen as often of late years as it did before telephones and Ford cars. I do not know that this means anything, but in view of modern transmission and transportation, it may indicate that women are a little faster or men a little slower than in the good old days.

Of the known head presentations, delivered as such, a little less than 97 per cent were O. A. Of the O. A. positions about 86 per cent were L. O. A. and about 14 per cent were R. O. A. The last two percentages may not be exactly correct but they are not far off. In head presentations, I don't mind telling you that in many cases, I am a good deal in the dark as to the position as far as the fontanelles are concerned. In the delivery one gets fairly accurate knowledge. Some act as though they were quite sure of themselves, and they may be, but I have often thought that they might be guessing. Of the known head presentations there were twenty or a little more than 3 per cent O. P. delivered as such. Of the twenty O. P. position delivered as such there were seven or 35 per cent delivered without instruments. There were three shoulder presentations. All delivered as breech. One, the second of a pair of twins. One face, or more properly speaking a brow presentation. It was an O.P., in a primipara. Needless to say that it was quite difficult, but the mother and baby are alive.

Of the full term babies there were fourteen stillborn or a little less than 2 per cent. Of these, there was reasonable evidence that six died in delivery. Which is practically three-fourths of 1 per cent that died in delivery. There were nineteen pairs of twins. Five of these premature, and fourteen full term or a little less than 2 per cent of the full term labors resulted in the birth of twins.

There were sixteen cases of post-partum hemorrhage, that would make one take notice, which is about 2 per cent. This refers to full term labor. I remember two of these came on three or four hours after the completion of labor, and were evidently due to a relaxed condition of the uterus, and not due to a part of the placenta being retained.

Of the ninety-two miscarriages in the first three months there were fourteen that required a curettage, or a little over 15 per cent. In regard to curettage it is my notion that it is be-

ing done more than is necessary. About the time I got out of school it was thought one should hasten to employ the curet. That I believe is not now the advice of some of the leading men in this line of practice, and certainly not the belief of some of us that are busy in this work. However it is my notion that it is advisable to use the curet at times. Too free hemorrhage is surely an indication for curettage. And in those cases that run a temperature in two to five days I still feel that I am justified in this procedure. Even in hemorrhage one can usually control it by packing the cervix and upper part of the vagina and wait twenty-four hours. Dilatation will be better, and many times the membranes will come away, or at least will be more easily detached. One must remember that most of these patients are in ordinary homes and not in the hospital. If one will avoid doing too much and not introduce infection, in 80 per cent or more of his cases it will not be necessary to use the curet, and if not necessary why use it.

One case of placenta previa only. That was in a premature labor at about the seventh month. She was a thin patient that had had eight or nine children, with a roomy vagina and pelvis. And by the way it was a shoulder presentation.

I have had five or six cases that I called placenta previa marginalis. They usually begin to have hemorrhage about the fourth, fifth or sixth month, and are a constant worry to the attending physician. They usually miscarry about the fifth, sixth or seventh month, and the pains forcing the head down as a rule stop the hemorrhage. This is one condition where the physician is justified in being glad when labor pains begin. It relieves a great load of responsibility.

There were eight that I called adherent placenta. But most of these were delivered artificially due to a violent hemorrhage, and no doubt would have been delivered in the usual way if one could have taken the required time. I am convinced that there is such a thing as adherent or retained placenta. I remember two of these as such, but if a hemorrhage does not prevent, a little time will deliver a very high per cent of them. In retained placenta, or a violent hemorrhage coming on before the placenta is delivered there is only one thing to do that I know of, and that is to remove the placenta. And there is only one instrument of value to me, and that is my hand. I am not referring to miscarriage of the early months.

One case of eclampsia—post-partum. The

patient was a primipara about nineteen years old. Had not been under the care of any physician. She came into the hospital at the beginning of labor. It was what one would call a normal delivery, and after the delivery she appeared bright and cheerful. In fact there was nothing to attract one's attention. I left her under the care of the nurse two hours after delivery, and four hours after delivery she had the first convulsion. She had seven convulsions averaging one hour apart. Coma followed for eleven hours. Her recovery was satisfactory, as recovery would be in a case of this kind. She left the hospital in twenty-four days. This patient was again delivered fourteen months later, by the late Dr. Baldwin, with no symptoms of recurrence except the fear in the minds of the family of what had happened at the first delivery. It is hardly necessary to state that I had consultation in this case. This case leaves two things that I believe will stay with me a long time, one is that I do not know very much about eclampsia, and the other is that I have had a plenty, whatever it may be.

There were two cases of phlegmacia alba-dolens or so-called milk leg. One followed a full time labor, in a home where the sanitary surroundings were above the average. The other followed a miscarriage about the third month where the sanitary conditions were very poor. One case of pelvic abscess, probably in the broad ligament. It followed a miscarriage at about the third month. The placenta was in the vagina when I arrived, and there was nothing done on my part but deliver it from the vagina. The sanitary surroundings were bad. The abscess was drained through the vagina in due time, and she made a very rapid recovery. That was four years ago. A little over a year ago she gave birth to a normal baby. About last September she came to me with pronounced symptoms of the third stage of syphilis, probably infected six or seven years ago. She had a positive four plus Wassermann. Whether there was any connection with the syphilis and the abscess I do not know. The advocates of the curet may say that its use would have prevented the pelvis infection. It may be, but I see no reason to think so.

There were the following deformities: One talipes or clubbed feet. One cleft palate. One spina bifida—full term. It lived about eleven days. One premature labor about the sixth month. The size of the foetus was about what one would expect, but as to shape it had a very marked resemblance to that of a frog. The

mother was in an active stage of tuberculosis, and died about sixteen months later of that disease. One encephalocele, a miscarriage at about the sixth month. The mother was a healthy looking young woman, who had had a normal child about eighteen months before. It was a breech presentation and quite difficult to deliver the head due to its size, which was larger than the average head of a full term child.

One atresia of the bowel—about one and a half inches above the rectum. Naturally there were no bowel movement, and it vomited all nourishment. It lived eleven days and five hours.

There were three complete lacerations of the perineum. The first was a R. O. P., a primipara, a eleven pound baby, and a mother weighing about 115 pounds. Instrumental delivery and a still born. The second was a L. O. A., normal though fairly difficult. It was her sixth labor.

The third was a breech, L. S. A. The sixth labor and it weighed fourteen pounds, and was still born. It was a very difficult delivery. There was no doubt sufficient reason for the results in the first and third cases, but I have never been able to see why the second resulted in a complete laceration.

All were repaired immediately following with excellent results in the first and third, and no results in the second. She was operated two and a half months later with a good result.

The first patient was again delivered with instruments three years later with some laceration but not involving the sphincter. The other two were confined two or three years later. Both normal labors with practically no laceration.

These are very disagreeable cases for both patient and physician. My experience indicates that they should be repaired immediately following the labor, and you may get 100 per cent results. I did not, but as to that it is worth trying. The results will depend much on the care following, and you will be fortunate if the bowels were thoroughly cleaned out just before labor. If one gets no results the patient should be operated as soon as possible. Probably in four to six weeks. My case was delayed due to sickness in the family. The proportion of males to females have varied quite a little during these years, but the final results in the twenty years were 51½ per cent boys, and 48½ per cent girls.

In these twenty years one naturally forms some notions on the subject. One is this: I do not believe that I can tell you how to attend

a confinement. Nor do I believe that you can tell me just how to do it. Your teaching, reading, and experience gives you a foundation upon which to stand, but the real test is: can we meet the conditions as they arise and treat them intelligently? I believe this is the most important work the general practitioner has to do. You are not a so-called specialist. You must be a whole lot bigger man than that. You must have a knowledge and be proficient in all the modern divisions of the profession. You must be a real doctor.

To do your best work, I do not believe that you can afford to be in a hurry. Continually under high pressure. One should consider he is on this case and take it easy when waiting is indicated, and he will have a higher per cent of normal deliveries than the doctor who gets impatient and forces delivery in one way or another. It will be better for the doctor, and much more so for the mother and baby. One must be alert to any symptom that indicates trouble. Experience and judgment will aid, and rapid, skillful action is many times of most importance. One will find plenty of opportunities that will test every bit of professional instinct, judgment, skill and endurance that he possesses.

The advisability of the use of instruments can easily excite an argument. I feel confident that some use instruments because they are in a hurry, or do not care to wait on this case. That of its self is no reason at all. On the other hand, I see no reason why one should let a woman exhaust herself on a labor that is accomplishing nothing. Why not deliver her before this extreme exhaustion? One could discuss some of the indications for the use of instruments, but after all each case is a separate and distinct affair of its self, there is no hard and fast rule by which to go. There are just two things to be considered and no more. It is the life and health of the mother, and the life and health of the child. Be fair to them and you will not go far wrong.

In connection with this, one might say that we in the country are not calling help or consultation as often as we should. There are reasons for this. One is that another physician is not always at hand. Another is that you have a self pride in knowing, or believing that you can do the work well, and you may think to call a consultant it will appear in the eyes of the family or community, evidence that your confidence in your own ability is a little uncertain. These reasons and one or two others should be disregarded when you have a

serious responsibility before you, and that justice to your patient and your self indicate that help is advisable.

Lacerations of the perineum should always be repaired. The man who does not get a laceration in a certain per cent of his labors, either does not attend many confinements, or he does not look to see what the results may be. This, however, is easily neglected but is one of the most important duties associated with labor. A good pelvic floor compared to a poor one will be the means of avoiding much grief to your patient in future years.

I have seen two cases of ectopic pregnancy. The first was not my patient, but I saw her because her physician was unable to see her at that time. She was operated upon by her own physician. The other was operated upon under my care. Neither patient so far as I know had consulted a physician until the tube had ruptured. Both made very satisfactory recoveries.

I have had no cases of Cesarean section. Nor any that I thought was necessary before or after delivery. I mention this only to call your attention to a tendency that could easily grow, and the end results may reflect back on the profession. You know as we gain in knowledge, and develop a better technic, and acquire more proficiency, we get quite ambitious in certain lines. But because of our skill let us not forget to weigh all the evidence, and pass judgment with the well-being of the mother and child in view only. Some of you can justly be proud of your proficiency and we are glad of it, but let that be used only when conditions, symptoms and judgment point plainly to the advisability of it being called into use.

I know that there have been in the past, and quite likely will be in the future, women and babies loose their lives because Cesarean section was delayed for one reason or another. And I know the relative indications for this procedure is to a great extent a matter of judgment, but let real indications be the foundation for that judgment before subjecting one's patients to this operation.

We are all practically agreed that the severe pains of labor should and can be in nearly all cases relieved. Ether I believe is being used quite extensively, and is no doubt very satisfactory in the hands of those who so use it. I have never used it for labor except for complete anesthesia. The so-called twilight sleep has had its day and I believe practically gone. I have had very little experience with it and do not take to it very kindly. It may be more my

fault than that of the drug. However, I do not believe that the majority of the doctors are using it now, and I am one who has very little use for it in this line of work. Chloroform has been very satisfactory to me and I believe also to the patients. There may be contraindications to its use in a small per cent of patients, and if I thought so I would surely leave it out. If used with judgment it is practically safe, leaves no bad after effects, and does relieve much suffering. In fact it has given to me such uniform satisfaction that I have had very little experience with any other drug in this line of work.

The use of pituitrin has probably been over rather than under done. It is a useful drug in a slow acting uterus with good dilatation and no mechanical obstruction, and no contraindication from a possible rise of bloodpressure. But the indiscriminate use of it without a little judgment behind the hypo-syringe is not a wise combination. I use it and believe in it to a limited extent, but I believe one-third to one-half c.c. is safer and will accomplish the same results as a c.c. which we used to use. One must not get the notion that pituitrin is a substitute for instruments.

There is no reason that I can see why the sharp edges of the aggravating after-pains can not be relieved in the average case. For some time I have been using Benzyl Benzoate for these pains, and it seems to be quite satisfactory to the patient. It is claimed to be non-toxic. At least one can give it quite freely with no apparent bad effects. This drug does not stand up well. Benzyl Succinate is claimed to be just as efficient and more stable. I have not used it enough to express an opinion.

A very distressing symptom in a prospective mother is nausea and vomiting in the early months of pregnancy. We used to use nearly every drug and combination of drugs at our command with very little or no results. Corpora Lutea hypodermatically for a few doses, followed by the same per mouth will give relief to this symptom in a very good per cent of cases.

I believe every woman should stay in bed two weeks following labor. I admit I have no such perfect control over these patients, and it is useless to advise the majority to do so, but that does not prevent me from believing in it. There is much backache, and sideache in women that have born children. These aches could be prevented to a great extent if every woman would stay in bed fourteen days following every labor. In after years women are

taking large quantities of medicine, treatments of various kinds, and operations of one kind or another for the relief of these symptoms, and we know the results are not very satisfactory. Four or five days longer in bed would in reality be a time and money saving proposition.

In this line of work men of our profession surely have an opportunity to do a real service to worthy and usually appreciative patients. Some day we may get back to the now old-fashioned idea, that man is here to do a real work—his contribution to the world in service. And if that is true let us, in our dealings with these mothers, these prospective mothers, these little boys and girls, just born, and those little babies yet to be born—let us be honest with our own consciences.

Because we were let to live, and live our lives and do our work, are we to be judge who shall live and who shall not? Have we not a better right to help them live and be strong, that they may have their joy, bear their sorrows, and contribute their love and service to the world?

Your success may depend on your personality, but it will more likely come from long years of hard, efficient, conscientious work. From judgment, skill, energy and untiring effort.

A score of the leading medical men from Minneapolis and St. Paul as well as members of the Central Minnesota Medical Society met July 15 at Pokegama Sanatorium, Pokegama, Pine county, Minnesota, on the occasion of the formal opening of the new reception hospital.

Twenty years ago, Dr. H. Longstreet Taylor of St. Paul opened the sanatorium at Pokegama on a stretch of ground bounded on three sides by Lake Pokegama and Snake River. Then it was conducted simply as a summer colony but the following year became an all-season resort for the treatment of tuberculosis. The cottage system was developed with the addition of an administration building. The new reception hospital, the last word in tubercular hospital construction, has replaced the cottages with the exception of an eight room building for ambulant patients.

The new hospital consists of two floors each having two wards, three double and eight single rooms and the ground floor. The latter is devoted to offices, throat room, operating room, alpine lamp, x-ray machines, diet kitchen and drug room. Two large sun porches on the southern exposure are designed for heliotherapy. In addition to pulmonary and laryngeal cases, the sanatorium is now equipped to take care of surgical cases.

The Journal of the Iowa State Medical Society

D. S. FAIRCHILD, Editor.....Clinton, Iowa

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THE MATERNITY ACT

Few subjects in recent years have received more discussion in medical circles than the Maternity Act. The prepondering opinion among medical writers is, that it was an unwise piece of legislation. It has generally been agreed that the maternity and infant mortality has been too high and should be lessened by better hospital care at the time of childbirth, and better instruction to the prospective mother. But in view of the fact that the administration of the act has been in the hands of untrained lay people, the results are not promising. In some states the acceptance of the act, placing the activities in the hands of a special department of the State University, has saved the administration from complete failure, but even under the best conditions it is difficult to see how the law can materially lessen the mortality.

Another objection seems to be the tendency to develop paternalistic methods on the part of the general government in matters relating to the practice of medicine, contrary to the trend of public opinion touching other things, and would lead ultimately to state medicine. This latter objection might be ignored if helpful results could be reasonably expected. The expenditure of large sums of public money for measures that belong to the individual, or at most, to the state, is a tendency in the wrong direction and contrary to our conception of the duties of government. We need not refer to objectionable details, but

rather, present some observations from the Journal of the American Medical Association.

Secretary of Labor James J. Davis, in a letter to the chairman of the House Committee on Interstate and Foreign Commerce, has approved the bill extending the provisions of the Federal Infancy and Maternity Act to Porto Rico. This law, as originally passed, granted subsidies only to the states, and in approving a measure to grant subsidies to Porto Rico Secretary Davis apparently has ignored the warning of President Coolidge that "the financial program of the chief executive does not contemplate the expansion of these subsidies." In his address to governmental departmental heads at Convention Hall, January 22, the president stated that his policy is not alone predicated on the drain which these subsidies make on the treasury, but that the broadening of these government activities is detrimental to the federal and state governments. If congress passes the house bill broadening the maternity law to include Porto Rico, this measure would doubtless face a presidential veto in view of the announced policy of President Coolidge to department heads, January 22.

Referring to the expenditure of money and how it is expended and what may be reasonably expected, is shown in the publicity report of the United States Civil Service Commission which reads:

Specialist in maternal and infant hygiene, \$3,500 a year; assistant in maternal and infant hygiene \$2,000 to \$3,000 a year; expert in maternal and infant care, \$3,000 a year. Receipt of applications will close February 26. The examinations are to fill vacancies in the Children's Bureau, department of labor, at the entrance salaries named above, and the vacancies in positions requiring similar qualifications. Appointees at an annual salary of \$2,500 a year or less, may be allowed the increase of \$20 a month granted by Congress. Appointees will also be allowed actual traveling expenses and \$4 a day subsistence when away from headquarters on official business. The duties of specialist in maternal and infant hygiene are to plan, conduct, or assist in investigations into the causes of infant and maternal mortality and morbidity in selected communities, rural and urban, with special reference to maternal and infant care at the time of confinement, and to make reports of such investigations; to inquire into the methods of prevention of infant and maternal mortality, and to conduct conferences with directors of bureaus of child hygiene, supervisors, and teachers of midwives. The duties of the assistant in maternal and infant hygiene are similar to those of the specialist, but in a subordinate capacity. The duties of the expert in maternal and infant care are to teach public health nurses the newer methods of maternal and infant and related duties.—California Medical Journal.

DECLINE IN TUBERCULOSIS DEATH RATE

The real cause of the decline in death from tuberculosis has divided observers into two classes, one who believe the improvement is due to environmental conditions directly under the control of human agencies, for which anti-tuberculosis activities are responsible.

Another group contend that the decline began many years before any of these activities were inaugurated and contend that the decline is due to hereditary immunity and that "natural selection may have done more for racial health in this matter than medical science."

Louis I. Dublin, Ph.D., statistician Metropolitan Life Insurance Company, takes issue with this group, the "Geneticists or Constitutionalists", in an address before the nineteenth annual meeting of the International Tuberculosis Association shows by numerous statistical tables that the facts lie with the anti-tuberculosis activities and places first the influence of the tuberculosis sanatoria in improving the mortality of tuberculosis and that the other activities have contributed largely in drawing attention to the advantages of sanatoria in the care, treatment and education of tuberculous persons and of keeping alive the various factors that are of importance in improving the environment of tuberculous patients. If the geneticists are correct in their premises, this is unnecessary, as the unfit and predisposed would fall victim to this disease without help. There seems sufficient grounds for the belief that there is some truth in both contentions. Without regard to statistics, which are not infallible or final, it is common observation and experience that environment is an important factor in the development of tuberculosis; that better housing, better food and better air are of vital importance.

Villeman, a French army surgeon as long ago as 1868, noted the prevalence of tuberculosis in French barracks and pointed out the advantage of better sanitary conditions as a means of lessening the disease, and views of a similar character have been held since his time.

It would be extremely difficult for any class of men to convince the medical profession that environment, such as good houses, good food, abundance of fresh air, short hours of work and pleasant surroundings are not of first importance in the prevention and cure of tuberculosis. On the contrary, poor housing, poor food, unsanitary surroundings, long hours of work, certain employment, as inhaling dust-laden air of an irritating character, will most certainly lessen the resistance of the individual and favor tuberculosis.

Dr. Dublin presents valuable statistics from which he has drawn interesting conclusions quite different in character from Dr. Phillips of Edinburg, Dr. Pearl of Johns Hopkins, Dr. Pearson, and many other writers of high authority. It may be safely concluded that much that has been offered in the name of tuberculosis activities are of little or no value, but it may be held that if the tuberculosis propaganda will foster and stimulate better conditions of living and aid in the development of tuberculosis hospitals, it is rather immaterial whether the environmentists' views are wholly correct or not or whether those who believe that heredity immunity is the primary and fundamental fact, but it is material that we employ every agency that will increase resistance and promote better general health.

We are publishing in this number an excellent paper by Dr. Schooley of Terril, who admits that he is a country doctor, who has diligently kept a record of his cases and has presented his experience in a clear and convincing manner. Dr. Schooley denies that he is a specialist, but writes of his work in obstetrics in a masterful way that would do credit to one who does admit that he is a specialist. Dr. Schooley writes of a country-side experience in obstetrics that is refreshing and convinces one that the country doctor in Iowa is a much bigger and more useful man than some have been willing to give him credit of being.

We have read the paper with an unusual degree of pleasure and sincerely hope to hear from him again. Not only has he presented a paper showing a high degree of professional skill, but a degree of honesty and conscientious regard for the welfare of his patients that is an answer to the question: "What is wrong with the medical profession?"

Hampton, Iowa, May 27, 1924.

D. S. Fairchild, M.D.,
Clinton, Iowa.

My Dear Doctor:

I am writing to you for information about medical defense companies. As you know, the Iowa State Society does not pay any indemnity nor does it furnish a hospital any protection.

Four of us doctors are running a ten or twelve bed hospital and we want protection. Heretofore the Fort Wayne Indemnity Co. has furnished a blanket policy covering all four doctors and the hospital, at an annual charge of \$85, indemnity limited to \$5,000 on any one case and \$15,000 for the entire year. Now they want a 25 per cent raise or \$105 per year. We consider this exorbitant and are wondering if there are not other indemnity companies that would carry the risk cheaper.

Kindly let me hear from you as soon as you can. We especially want the hospital insured.

I hope to see you at the A. M. A.

Very truly yours,

(Signed) A. J. Hobson.

Boone, Iowa, May 6, 1924.

Dr. D. S. Fairchild,
Clinton, Iowa.

Dear Doctor Fairchild:

Do you personally believe that the medical protection offered by the State Society is adequate? Is it as good as that offered by the Medical Protective Company of Indiana? Why do so many carry policies in the latter? Am I foolish not to carry such a policy?

Your reply will be greatly appreciated.

Fraternally and respectfully,

(Signed) R. E. Gunn.

7-6-707 F. N. B. Bldg.

MALPRACTICE INSURANCE

Letters similar to those published, seeking information and advice, come to our office, and we presume others have the same thought in mind we are offering certain advice through the pages of the Journal.

It may be a fair presumption that a practitioner of medicine should be held responsible for the results of his treatment of sick or injured patients up to the extent of the legal definition of requirements touching skill and care—that they shall be equal to the skill and care exercised by the average practitioner in similar communities. This does not work automatically and a trial in court may be necessary to show that such skill and care has been exercised. There are sometimes difficulties here, for expert medical witnesses may not agree as to the exercise of reasonable skill and care in the particular case, although the case may come well within the legal requirements. The result of a treatment is not to be considered as a true test of skill and care, there are so many elements which may enter into a medical or surgical case which a physician cannot control. The layman is very liable to measure the question of skill and care by the result or the apparent result, for if an x-ray plate is shown a patient which shows a very decided anatomical deformity, although function is good, he may be inclined to see such lack of skill and care as to warrant a claim for damages, even if the patient is inclined to be fair and honest, or, at least, refuse to pay a reasonable fee for the service rendered him.

In the letters, facts are not asked for, but advice. For the facts, examine the detailed report

of the Committee on Medical Defense. It will be found that of the great sum of money demanded of the medical profession of Iowa in the form of damage, only a very small amount has been paid in judgments. After fifteen years experience with 350 malpractice claims before us which have been carefully analyzed, we have arrived at some rather definite conclusions. The first and of fundamental importance is the fact that we can defend our members against malpractice claims better than any commercial insurance company. We are not engaged in this work for revenue, hence we may adopt a liberal policy. No expense is spared when the reputations of our members in good standing are at stake. We spend a good deal of time in investigating all our cases; all medical facts and opinions are secured; the weak points in our cases are sought out. We have secured the most skillful legal service, without regard to cost, who have cooperated with the committee in making up the briefs and have adopted the best course after consultation for the interest of our members without prejudice. But we cannot win all cases, there is still a risk and we are inclined to advise our members to take out commercial insurance as a means of protecting their pocket-books. Our whole aim is to protect their professional reputations, which will incidentally protect them financially. We are not in competition with commercial insurance companies and cooperate with them in the defense of cases. We prefer to appear for the doctor and insist on doing so, as it is better for all concerned, and we must have full charge of the case.

In the cases referred to above, there may be suits to be defended, and as the evidence must be submitted to a jury, perhaps more sympathetic to the plaintiff than to the doctor, a verdict may be rendered the plaintiff, which the courts may allow to stand, although unjust, from the standpoint of the legal definition. There is usually safety in the supreme court, but not always. Here is a judgment for the doctor to pay.

We are not directly referring to a certain number of cases in which the evidence may disclose errors in judgment, lack of skill, but more frequently negligent care at some stage in the treatment, which the court will not excuse, and lead to a judgment which is not unjust, but which the doctor must pay. There are other cases wholly speculative in which no element of error exists, but the plaintiff relies on skillful prosecution and the sympathy of the jury for a verdict, which, unfortunately, sometime succeeds.

There are all kinds of risks in the practice of medicine and surgery, and as the field of medicine and surgery broadens, the responsibilities and

risks increase. The demands of society and of individuals are increasing. New discoveries in the field of science are made, utilized in inventions for the comfort and enjoyment of men. Likewise, the demands on the medical profession are increasing, more perfect results are expected and watchfulness in every direction is exercised. The men who hold themselves out as practitioners of medicine and surgery need more equipment and more protection.

We therefore advise our members if they desire full protection, to secure commercial insurance; they will be doubly protected, professionally and financially. We cannot pay judgments without organizing as an insurance company, which it would be unwise for the State Society to do, and it would cost more in additional dues than present dues and commercial insurance premiums added.

INJURY TO PATIENT FROM EXPLOSION OF MACHINE USED IN ANESTHETIZING

(Wilt vs. McCallum, et. al. [Mo.] 253 S. W. R. 156)

The Kansas City, (Missouri), Court of Appeals says that the plaintiff employed one of the two physicians made defendants to perform an operation on her for the removal of a carbuncle in the urethra, and he arranged for the other defendant to administer an anesthetic consisting of nitrous oxid mixed with oxygen, using therefore a Heidbrink apparatus. After the carbuncle was removed, the operating surgeon started to use Wappler high frequency electrical converter to cauterize the wound. As soon as the electrode machine was applied to the plaintiff there was an explosion in the gas mask and rubber tubes attached to mask, a hole being blown in the tube four or five inches from the face mask. The explosion caused her face to be burned and an injury to her eyes. She sued the two physicians for damages. The case was pleaded and submitted on the theory of *res ipsa loquitur* ("the matter speaks for itself"), whereas the defendants contended that such theory had no place under the facts in this case. The plaintiff recovered a judgment for \$6,000, but voluntarily remitted \$3,000 from it, leaving a judgment in her favor for \$3,000, which is reversed and the cause remanded for another trial.

Under the testimony, the cause of the explosion was left largely to conjecture and speculation. The plaintiff, relying on the doctrine of *res ipsa loquitur* and the theory that the duty was on the defendants

to explain the unfortunate happening, made only a slight effort to show the cause of the explosion; and the defendants made no effort to explain it, but contented themselves with showing that proper machines were being used, and that the anesthetic was being administered and the operation carried on in the proper manner, and in a way that physicians have often done before and afterward without any untoward occurrence; and that they did not know why the explosion occurred. However, it was apparent from the record that the explosion occurred by reason of the fact that some carbon or some foreign substance had got into the nitrous oxid and oxygen gas being used. Whether these substances were in the tanks furnished by an oxygen gas company, or whether they were introduced into the face mask or tubes through the carelessness of the anesthetist, was a matter of speculation. A more plausible theory of the cause of the explosion was that a foreign substance was introduced by the manufacturers into the gases being used. The explosive mixture was ignited, it was reasonable to say, through an electric spark coming from the Wappler transformer, though, of course, it was possible there was a short circuit in the wire attached to the nitrous oxid chamber of the Heidbrink machine, and that a spark came through this machine and through the wiring that reinforced the tube attached to the face piece or mask, although, in view of the fact that the explosion occurred the moment the electrode of the Wappler apparatus was applied to the body of the plaintiff, the latter explanation as to the source of the ignition would seem to be probable.

The court is unable to see on what theory the doctrine of *res ipsa loquitur* could be applied in this case. Unquestionably the duty owing by the defendants, or either of them, to the plaintiff was that of ordinary care. In the absence of fact from which the court could say that the explosion was one that, according to ordinary experience, does not happen if the apparatus is being operated with proper care, the doctrine could not apply. Did the mere happening of the explosion under the circumstances in this case show that, according to ordinary experience, it would not have happened if the defendants had exercised the proper care? The court thinks not. If the explosion was caused by improper ingredients mixed with the nitrous oxid and oxygen by the manufacturer, a reputable concern, then the defendants, or either of them, would not be liable in this case. As men exercising the care that individuals in their position ordinarily do, they would not be expected to have the contents of the gas containers analyzed or tested before using them. The fact that a contract relation existed did not require them to use more than ordinary care. There was no showing or charge that they were derelict in their duty. Nor was there any plea in the petition that they were not possessed of the ordinary and average skill of men of their profession in the community. Absent evidence to the contrary, the law presumed that the defendants did their duty properly.—Journal A. M. A.

We are presenting the text of the opinion of Judge Jacob Trieber of The District Court of the United States in directing the jury to return a verdict in favor of the defendant, Mary E. Lecocq of Jonesboro, Arkansas.

It appears that one of the attorneys for the defendant was Henry E. Thompson, general counsel for Professional Insurance Corporation of Des Moines. From the letter head we learn that the directors of this corporation are Jean Duplessis, C. N. Stryker, Wm. A. Guild and H. J. Marshall. Wm. A. Guild, president, and H. J. Marshall, secretary.

We present this opinion for the sole purpose of calling attention to the attitude of the court concerning the right to practice medicine. There is nothing new in this opinion and it in no way involves the opinion of the court as to the merits of any system of medicine, but the legal rights of practitioners, and it also shows that legislative enactments which curtail such rights have difficulty in passing the scrutiny of the courts on constitutional grounds. Opinions as set forth by Judge Trieber should not be looked upon as evidence of an unfriendly attitude of the courts touching scientific medicine. The Bill of Rights provided for in the constitution gives the judge no option, whatever his private views may be, and the opinion which we are publishing is entirely proper and should be fully accepted.

It will be noted that the evidence tended to show that there was a material difference in opinion as to the value of the Abram's treatment. To us the opinion of the great physicians and surgeons, the American Medical Association, the American College of Surgeons, and many other scientific bodies, has such preponderating value that no other evidence is of value or should be considered, but not so of the law. As long as there is respectable and unimpeached evidence in support of a certain contention, the law is bound to accept it, however ridiculous it may seem to be, at its face value.

Ouija, and automatic writing may be compared, as stated by Austin C. Lescarbours, secretary of the Scientific American Abrams' Investigation Committee, who says in his report, "Five months of close observation of E. R. Abrams' diagnosticians at work and study of the entire technic, led us to believe that the matter is by no means a bare-faced fraud. Many of those engaged in the work—Dr. Abrams for one—are apparently sincere."

Further on Mr. Lescarbours states, "The whole thing, Abrams, bears a striking resemblance to the subjective psychic phenomena, compare it with the Ouija which spells out messages through subconscious muscular action." This investigation

was not conducted by medical men, but by laymen who may be competent to conduct psychic investigation, but whose training in no way fits them to investigate therapeutic questions. Mr. Lescarbours's final conclusion is, "The E. R. A. technic is such as to leave the gravest ground for suspicion that it works—when it does work—in just this way." (Abst. British Med. Jour.)

We have presented these rather extended observations to show that the court had before it a considerable mass of evidence which tended to show that there was sufficient merit and honesty of purpose in this practice to make it the plain duty of the judge to instruct the jury to return a verdict in favor of the defendant, Mary E. Lecocq, who was tried for using the U. S. Mail for the purpose of fraud. In supporting the action of the court, we had also in mind to bring it home to the medical profession that neither in this action or in others of a similar character, in which the courts have held that certain legislative acts regulating the practice of medicine were unconstitutional, was it intended to discredit scientific medicine.

We have on all occasions tried to impress on our readers the fact that never before has the public held the medical profession in higher esteem than at the present time and that if we hope to retain our high standing, we must conduct our work in a steadfast and dignified manner, concerning ourselves as little as possible with the cults, with the assurance that we will get all we are entitled to.

NEW GROWTHS IN THE TESTICLE

Dr. Fred B. Lund of Boston presents in a paper published in Boston Medical and Surgical Journal for March 27, 1924, some interesting observations on this subject:

The malignancy of new growths of the testicle is a well attested fact. Surgeons for many years have known that after removal of testicles for so-called sarcomata, recurrence was frequent and rapid. This recurrence took place not in the inguinal glands, but in the intra-abdominal glands along the spermatic vessels, lying upon the aorta, and the right or left iliac veins.

Dr. Lund is of the opinion that in operating for malignant testes, these glands should be removed either by the intraabdominal route or the extra abdominal method. He calls attention to the inevitable development of extensive abdominal tumors after castration for malignant disease of testicle and their fatal prognosis. Thus it will be seen that a proper operation for malignant disease of the testicle is a formidable one and should

be undertaken only by surgeons prepared to dissect out the intra-abdominal glands along the spermatic vessels lying upon the aorta and the iliac veins.

Dr. Lund also states that in his opinion the generally accepted belief that undescended testicles are more liable to malignant disease, is more a tradition than a fact; however, the operative requirements are the same if malignancy exists.

EFFECT ON FELLOWSHIP OF REMOVAL TO ANOTHER STATE

A Fellow who changes the location at which he practices medicine, from the state through whose constituent association he holds membership in the American Medical Association to another state in which there is a constituent association, is eligible to membership in the component society of his new location on the presentation of a transfer card and an official statement that his dues have been paid in full in the society in which he holds membership; provided that no evidence which would disqualify him for membership arises. He shall forfeit his Fellowship in the American Medical Association one year after such change of location, unless he becomes a member of the constituent association of the state to which he has moved, provided, however, that if the component society into whose territory such Fellow has moved shall refuse his membership, the Fellow shall be privileged to appeal to the Judicial Council of this Association to determine whether or not he be guilty of any act that warrants the enforcement of the provisions of this section. Pending the decision of such appeal, he shall retain his Fellowship in the American Medical Association through his original state association.

A member of a constituent association who is located for the purpose of practicing in a state adjacent to that through the association of which he holds Fellowship in the American Medical Association may become and may be continued a Fellow of the American Medical Association, provided the Council of the constituent state association of the state in which he is practicing medicine waives jurisdiction over his membership.—American Medical Association Bulletin.

THE ANTI-NARCOTIC LAW AND CODEIN

According to the Bulletin of the American Medical Association a committee of the Ohio State Medical Association instituted an inquiry as to the position of codein as a habit forming narcotic. Of fifty-seven practitioners, forty-eight believed that codein was not a habit forming drug, seven believed that a codein habit might be formed, but could be easily broken.

As to the Harrison Narcotic Law, thirty-eight were of the opinion that codein should be exempted, while eight held that while it might be exempted, its sale should be limited to physicians' prescriptions.

Among physicians engaged in special branches of medicine, fifty-eight did not regard codein a habit forming drug, six believed it might lead to the habit of using more powerful narcotics.

We are of the opinion that the sale of codein should be limited to physicians' prescriptions. There is no good reason for dispensing codein indiscriminately to any purchaser, as there is a possibility of forming a codein habit and also of creating a demand for morphine.—EDITOR.

DR. HUBERT WORK, SECRETARY OF THE INTERIOR, IN RELATION TO PUBLIC HEALTH

Dr. Hubert Work, Secretary of the Interior, has outlined a new plan for the reorganization of the Interior department which has been submitted to the joint congressional committee on government reorganization. Secretary Work's plan provides for four divisions of his department: Bureau of Education, Bureau of Public Health, Bureau of Public Works, Bureau of Territorial Affairs.

The secretary asserts that the Surgeon General of the Public Health Service should be ex-officio secretary of the proposed Bureau of Public Health.

Incidentally, the chairman of the National Health Council has been authorized to appoint a committee to consider this whole matter of a Federal Department of Welfare or Health.—Journal of Missouri State Medical Association.

SOCIETY PROCEEDINGS

Linn County Medical Society

Officers Linn County Medical Society for 1924-1925: President, W. H. Redmond, Cedar Rapids; vice-president, J. T. Grayston, Marion; secretary, B. L. Knight, Cedar Rapids; treasurer, B. L. Sheldon, Cedar Rapids; delegates, W. Ruml, J. Lynn Crawford, Cedar Rapids; censors, L. M. Downing, H. J. Jones, R. K. Keech, Cedar Rapids.

B. L. Knight, Secretary.

Madison County Medical Society

Madison County Medical Society met at the Country Club, Winterset, May 29.

Dr. Charles Ryan of Des Moines read a paper on Joint Disease. Dr. Howland read a paper on Indications for Mastoid Operations, and Dr. Cooper on Facial Infections, both from the dentist's viewpoint.

Dr. Channing Smith, councilor for the seventh district, addressed the meeting.

About forty physicians and their wives attended the meeting.

Muscatine Laboratory Association

Eighteen physicians from Muscatine and adjacent towns attended the first annual banquet of the Muscatine Laboratory Association held in the Gold

Room of Hotel Muscatine, May 27. In the election of officers for the coming year Dr. T. F. Beveridge was chosen president; Dr. A. J. Oliver, vice-president, and Dr. W. W. Daut, secretary.

The program included talks by Drs. L. C. Howe, J. L. Klein, W. H. Johnston, A. J. Oliver, A. L. Bryan, A. J. Weaver and Miss Effie Thompson, laboratory directors.

Among the visiting physicians attending were Drs. E. R. King of Letts, E. P. Rogers of Wapello and S. J. Lewis and O. W. McGrew of Columbus Junction.

MEDICAL SOCIETY OF THE MISSOURI VALLEY AT DES MOINES

The annual meeting of this association, to be held September 17, 18 and 19, in the city of Des Moines, under the presidency of Dr. H. L. Lehnhoff of Lincoln, will be the outstanding event of the fall season in the Missouri Valley.

The plan of dividing the sessions into two sections—clinical and didactic—will, we are sure, meet the hearty approval of all in attendance.

Des Moines has already an established reputation for doing things in a big way, demonstrated last fall by the success of the Inter-State Clinical Conference; and with the cooperation of the Polk County Medical Society, the clinical features of this approaching meeting may be anticipated with full assurance of seeing and hearing something worth while.

The following committees have been appointed:

General Arrangements—Drs. John Martin, L. K. Meredith and W. J. Fenton.

Clinics—Drs. J. C. Rockafellow, Daniel J. Glomset and John H. Peck.

Physical Arrangements—Drs. Thos. A. Burcham, V. A. Ruth.

Entertainment—Drs. G. N. Ryan, J. F. Auner and Howard D. Gray.

Finance—Drs. M. L. Turner, W. W. Pearson and Oliver J. Fay.

Exhibits—Dr. W. J. Fenton.

The three morning sessions will be devoted to a series of diagnostic clinics, given in the assembly room of the society, Hotel Fort Des Moines, which will be headquarters. Those taking part in the clinics are as follows:

Obstetrics—Dr. A. C. Page.

Medicine—Drs. W. L. Bierring and J. S. Weingart.

Surgery—Drs. J. Chas. Ryan, O. J. Fay and J. A. Downing.

X-Ray—Dr. T. A. Burcham.

Diabetes—Dr. E. B. Winnett.

Neurology—Dr. F. A. Ely.

Heart—Dr. M. M. Myers.

Pediatrics—Dr. L. F. Hill.

Dermatology—Dr. J. F. Auner.

Urology—Dr. C. W. Losh.

Orthopedics—Dr. W. E. Wolcott.

Sessions for reading and discussion of papers will be held each afternoon and evening. The banquet

will be held on Thursday evening, details of which will be announced in the September issue. Following is the

Preliminary Program

President's Address.....Dr. H. J. Lehnhoff, Lincoln
"Cataracts: Treatment with a Subconjunctival Injection of Cyanide of Mercury",

Dr. F. W. Dean, Council Bluffs

"Experience with Parasitic Diseases of the Intestines".....Dr. J. M. Mayhew, Lincoln

"Infantile Paralysis," illustrated by moving pictures

Drs. Frank Dickson and Rex L. Dively, Kansas City
"Goiter and Its Treatment" (lantern slides),

Dr. E. P. Sloan, Bloomington, Ill.

Surgical Symposium: "Primary and Complemental Jejunostomy in the Treatment of Ileus"

"Surgical Mile Stones in the Treatment of Ileus",

Dr. A. R. Mitchell, Lincoln

"Fundamental Principles in the Surgical Treatment of Acute Ileus".....Dr. A. I. McKinnon, Lincoln

"The Toxin in Acute Ileus,"

Dr. H. H. Everett, Lincoln

"Complemental Jejunostomy in the Treatment of

Potential Ileus".....Dr. Czar C. Johnson, Lincoln

Discussion opened by Dr. Jno. E. Summers, Omaha

Symposium: "Tumors of the Breast"

"Surgical Viewpoint".....Dr. Wm. Jepson, Sioux City
"As He Sees Them",

Dr. V. L. Treynor, Council Bluffs

Dr. J. C. Waterman, Burke, South Dakota

"X-Ray".....Dr. A. P. Overgaard, Omaha
Discussion opened by Dr. Donald Macrae, Council

Bluffs

Symposium: "Diabetes"

"The Nature of the Diabetic Metabolic Anomaly,"

Dr. Geo. H. Hoxie, Kansas City

"The Dietetic Management of Diabetes,"

Dr. Adolph Sachs, Omaha

"Insulin".....Dr. L. H. Fuson, St. Joseph

"Borderland Cases".....Dr. J. M. Bell, St. Joseph

Discussion opened by Dr. A. D. Dunn

Complete program will be issued August 15. Those failing to receive a copy should notify the secretary, Dr. Chas. Wood Fassett, Kansas City, Missouri.

THE INTER-STATE POST GRADUATE ASSEMBLY

The Inter-State Post Graduate Assembly, directed by the Tri-State District Medical Association, extends a hearty invitation to the physicians of America who are in good standing in their State or Provincial Societies to attend the annual assembly, which is to be held at Milwaukee, Wisconsin, October 27, 28, 29, 30 and 31, five full days of post graduate work.

Among the eminent members of the profession and citizens who have accepted places on the program are the following:

Dr. Nicholas Murray Butler, President of Columbia University, New York, N. Y.

Sir Arthur William Currie, President of McGill University, Faculty of Medicine, Montreal, Canada.

Merritte W. Ireland, Surgeon-General of United States Army, Washington, D. C.

Monsieur J. Jusserand, French Ambassador to United States, Washington, D. C.

Edward E. Stitt, Surgeon-General of United States Navy, Washington, D. C.

Professor Theodore Tuffier, Prof. of Surgery, Faculty of Medicine, Paris, France.

Dr. John V. Barrow, Los Angeles, California.

Dr. W. F. Braasch, Mayo Clinic, Rochester, Minnesota.

Dr. George E. Brewer, Emeritus Prof. of Surgery, Columbia University, College of Physicians and Surgeons, New York, N. Y.

Dr. Alan Brown, Prof. of Pediatrics, University of Toronto, Faculty of Medicine, Toronto, Canada.

Dr. Ralph C. Brown, Assistant Prof. of Medicine, Rush Medical College, Chicago, Illinois.

Dr. C. Macfie Campbell, Prof. of Psychiatry, Harvard University, School of Medicine, Cambridge, Massachusetts.

Dr. Walter T. Connell, Prof. of Medicine, Queen's University, Faculty of Medicine, Kingston, Canada.

Dr. John F. Cowan, Prof. of Surgery, Stanford University, School of Medicine, San Francisco, California.

Dr. George W. Crile, Prof. of Surgery, Western Reserve University, School of Medicine, Cleveland, Ohio.

Dr. Samuel J. Crowe, Clinical Prof. of Laryngology, Johns Hopkins University, School of Medicine, Baltimore, Maryland.

Dr. LeRoy Crummer, Prof. of Medicine, University of Nebraska, College of Medicine, Omaha, Nebraska.

Dr. Walter E. Dandy, Associate Prof. of Surgery, Johns Hopkins University, School of Medicine, Baltimore, Maryland.

Dr. William Darrach, Dean and Associate Prof. of Surgery, Columbia University, College of Physicians and Surgeons, New York, N. Y.

Dr. Vernon C. David, Assistant Prof. of Surgery, Rush Medical College, Chicago, Illinois.

Dr. David J. Davis, Prof. of Pathology and Bacteriology, University of Illinois, School of Medicine, Chicago, Illinois.

Dr. John B. Deaver, Prof. of Surgery, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania.

Dr. Laurence R. DeBuys, Prof. of Pediatrics, Tulane University, School of Medicine, New Orleans, Louisiana.

Dr. George F. Dick, Assistant Prof. of Medicine, Rush Medical College, Chicago, Illinois.

Dr. Charles A. Elliott, Prof. of Medicine, Northwestern University, School of Medicine, Chicago, Illinois.

Dr. Leonard W. Ely, Prof. of Surgery, Stanford

University, School of Medicine, San Francisco, California.

Dr. Joseph Evans, Prof. of Medicine, University of Wisconsin, School of Medicine, Madison, Wisconsin.

Dr. A. MacKenzie Forbes, Clinical Prof. of Orthopedics, McGill University, Faculty of Medicine, Montreal, Canada.

Dr. William Goldie, Associate Prof. of Medicine, University of Toronto, Faculty of Medicine, Toronto, Canada.

Dr. Marvin L. Graves, Prof. of Medicine, University of Texas, School of Medicine, Galveston, Texas.

Sir Henry Gray, Royal Victoria Hospital, Montreal, Canada.

Dr. Don M. Griswold, Prof. and Head of Department of Preventive Medicine and Hygiene, State University of Iowa, Iowa City, Iowa.

Dr. Garfield M. Hackler, Prof. of Surgery, Baylor University, School of Medicine, Dallas, Texas.

Dr. John A. Hartwell, Associate Prof. of Surgery and Clinical Surgery, Cornell University, Medical College, New York, N. Y.

Dr. Carl A. Hedbloom, Prof. of Surgery, University of Wisconsin, School of Medicine, Madison, Wisconsin.

Dr. William B. Hendry, Prof. of Obstetrics and Gynecology, University of Toronto, Faculty of Medicine, Toronto, Canada.

Dr. Russell D. Herrold, McCormick Institute for Infectious Diseases, Chicago, Illinois.

Dr. Julius H. Hess, Prof. of Pediatrics, University of Illinois, School of Medicine, Chicago, Illinois.

Dr. Russell A. Hibbs, Prof. of Orthopedic Surgery, Columbia University, College of Physicians and Surgeons, New York, N. Y.

Dr. Frederick J. Kalteyer, Associate Prof. of Medicine, Jefferson Medical College, Philadelphia, Pennsylvania.

Dr. Allen B. Kanavel, Prof. of Surgery, Northwestern University, School of Medicine, Chicago, Illinois.

Dr. Ralph A. Kinsella, Associate Prof. of Medicine, University of St. Louis, School of Medicine, St. Louis, Missouri.

Dr. Francis H. Lahey, Prof. of Clinical Surgery, Harvard University, School of Medicine, Boston, Massachusetts.

Dr. Dean Lewis, Prof. of Surgery, Rush Medical College, Chicago, Illinois.

Dr. LeRoy Long, Dean and Prof. of Surgery, University of Oklahoma, School of Medicine, Oklahoma City, Oklahoma.

Dr. William E. Lower, Prof. of Urology, Western Reserve University, School of Medicine, Cleveland, Ohio.

Dr. Charles B. Lyman, Prof. of Clinical Surgery, University of Colorado, School of Medicine, Denver, Colorado.

Dr. N. J. MacLean, Associate Prof. of Surgery, University of Manitoba, Faculty of Medicine, Winnipeg, Canada.

Dr. Ralph H. Major, Prof. and Head of Depart-

ment of Medicine, University of Kansas, School of Medicine, Rosedale, Kansas.

Dr. Charles H. Mayo, Mayo Clinic, Rochester, Minnesota.

Dr. William J. Mayo, Mayo Clinic, Rochester, Minnesota.

Dr. Edward Miloslavich, Director of Department of Pathology and Bacteriology, Marquette University, School of Medicine, Milwaukee, Wisconsin.

Dr. Roger S. Morris, Prof. of Medicine, University of Cincinnati, School of Medicine, Cincinnati, Ohio.

Dr. Bernard H. Nichols, Department of Roentgenology, Cleveland Clinic, Cleveland, Ohio.

Dr. Walter L. Niles, Dean and Prof. of Clinical Medicine, Cornell University, School of Medicine, New York, N. Y.

Dr. William F. Petersen, Associate Prof. of Pathology and Bacteriology, University of Illinois, School of Medicine, Chicago, Illinois.

Dr. Dallas B. Phemister, Assistant Prof. of Surgery, Rush Medical College, Chicago, Illinois.

Dr. Harry M. Richter, Prof. of Surgery, Northwestern University, School of Medicine, Chicago, Illinois.

Dr. Stanley P. Reimann, Director of Laboratories, Lankenau Hospital, Philadelphia, Pennsylvania.

Dr. David Riesman, Prof. of Clinical Medicine, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania.

Dr. Milton J. Rosenau, Prof. of Preventive Medicine and Hygiene, Harvard University, School of Medicine, Boston, Massachusetts.

Dr. E. C. Rosenow, Mayo Clinic, Rochester, Minnesota.

Dr. G. W. Stevens, Milwaukee, Wisconsin.

Dr. Wallace Irving Terry, Prof. of Surgery, University of California, School of Medicine, San Francisco, California.

Dr. John H. J. Upham, Prof. and Head of Department of Medicine, University of Ohio, School of Medicine, Columbus, Ohio.

Dr. George Gray Ward, Jr., Prof. of Obstetrics and Gynecology, Cornell University, School of Medicine, New York, N. Y.

Dr. Louis M. Warfield, Prof. of Internal Medicine, University of Michigan, School of Medicine, Ann Arbor, Michigan.

Dr. George Weaver, McCormick Institute for Infectious Diseases, Chicago, Illinois.

Dr. Charles J. White, Prof. of Dermatology, Harvard University, School of Medicine, Boston, Massachusetts.

Dr. Charles S. Williamson, Prof. of Medicine, University of Illinois, School of Medicine, Chicago, Illinois.

Dr. Milton C. Winternitz, Dean of Yale University, School of Medicine; Prof. of Pathology and Bacteriology, New Haven, Connecticut.

Dr. John A. Witherspoon, Prof. of Medicine, Vanderbilt University, Medical Department, Nashville, Tennessee.

Dr. John L. Yates, Milwaukee, Wisconsin.

Dr. Hugh H. Young, Clinical Prof. of Urology,

Johns Hopkins University, Medical Department, Baltimore, Maryland.

Dr. Abraham Zingher, Assistant Prof. of Hygiene, University and Bellevue Hospital, Medical College, New York, N. Y.

Dr. W. B. Peck,
Managing-Director.

Program Committee

Dr. Walter L. Bierring, Des Moines

Dr. E. Starr Judd, Rochester, Minnesota

Dr. Dean Lewis, Chicago, Illinois

Dr. Ernest Sachs, St. Louis, Missouri

Dr. John L. Yates, Milwaukee, Wisconsin

INVITATION TO AMERICAN PHYSICIANS

This Association is supervising an Inter-State post graduate clinic tour to Canada, British Isles and France to start May 18, 1925. Leading teachers and clinicians of Canada and Europe will arrange and conduct clinics and demonstrations in the following clinic cities:

Toronto and Montreal, Canada; London, Liverpool, Leeds, Manchester and Newcastle, England; Edinburgh and Glasgow, Scotland; Dublin and Belfast, Ireland; Paris, Lyon and Strasbourg, France.

Besides the main tour, special tours to practically all the leading centers of Europe will be arranged. Sight-seeing trips to all places of interest in the countries visited will be included in the regular tour.

Cost of tour, including first class hotels, board, steamship, clinic arrangements and all ordinary traveling expenses, under \$1,000.

The tour is open to physicians in good standing in their state societies, their families and friends who are not physicians.

For information, write the Managing-Director, William B. Peck, Freeport, Illinois.

PERSONAL MENTION

Dr. D. W. Harmon of Story City and Dr. E. E. Richardson of Webster City, have taken over the practice of Drs. D. M. and Jennie Ghrist of Ames, who will leave shortly for California. Both Dr. Harmon and Dr. Richardson are graduates of the Iowa University School of Medicine and both ex-service men.

MARRIAGES

Dr. Charles T. Grattige of Postville and Miss Ama Daubenberger also of Postville, were married May 20, 1924. Dr. Grattige is connected with the Postville Hospital.

Dr. W. T. Peters of Burt and Miss Helen Barrickman, also of Burt, were married at Blue Earth, Minnesota, January 31, 1924.

Dr. Malcom Campbell of Malvern and Miss Lillian Kruse of Mineola, were married June 3, 1924.

Dr. George Hadley Clark and Miss Elizabeth Phillips, both of Oskaloosa, were married June 11, 1924.

OBITUARY

Dr. E. W. Bachman of Estherville, died at Rochester, Minnesota, May 28, of heart disease, quite unexpectedly.

Dr. Bachman had practiced in Estherville twenty-five years.

Dr. A. G. Field of Des Moines died at his home May 31, 1924, at the advanced age of ninety-four years.

Dr. Field had been an interesting character in medical circles of Des Moines for many years. A full history of Dr. Field may be found in a former number of the Journal of the Iowa State Medical Society, to which the reader is referred.

Dr. Thomas A. Hobson of Parkersburg, Iowa, died June 22, 1924, from uremia. He had been ailing for some time but his death was very unexpected.



DR. THOMAS A. HOBSON

Dr. Hobson was born near Brooklyn, Iowa, February 1, 1864. He received his early education in the country schools and LeGrade Academy and his medical course at the Iowa State University from which he graduated in 1889. Ever since that time he has been in active practice in Parkersburg, Iowa and vicinity. In 1900 he took a post-graduate course in the Chicago University. He was married to Miss Anna Anderson July 2, 1889. Dr. Hobson was a member of the Methodist Episcopal Church. He was also a 32d degree Mason. During the world war

he served on the medical staff at Camp Pike. Dr. Hobson was a splendid example of the highest type of family physician. He gave freely of his services. He had learned that it took sacrifice but he had also learned that service even with sacrifice brings that greatest satisfaction. With his professional brethren he was always cordial, honest and more than fair. As a friend he was constant and loyal; as a citizen patriotic and public spirited. He was devoted to his profession, his family, his friends and community. There are many who could testify that burdens were made lighter, sunshine much brighter, sorrow less deeper, because of his cheerful, skillful ministration.
W. A. Rohlf, M.D.

BOOK REVIEWS

ABT'S PEDIATRICS

By 150 Specialists, Edited by Isaac A. Abt, M.D., Professor of Diseases of Children, Northwestern University Medical School, Chicago. Set Complete in 8 Octavo Volumes Totaling 8,000 Pages, with 1,500 Illustrations, and Separate Index Volume Free. Now Ready; Vols. I, II, III. Vol. III Containing 1,051 Pages with 223 Illustrations. Cloth \$10 Per Volume, Sold by Subscription. W. B. Saunders Company, 1924.

Reviews of the two first volumes have already appeared in an earlier number of the Journal, and it is a source of great pleasure to the Editor that he now presents the third volume, which is introduced by a chapter by Dr. Clemens Pirquet of Vienna, Austria, on the "Nem" System of Nutrition.

A considerable part of this volume is devoted to diseases of the digestive system. Following Pirquet's nutritional introduction comes a contribution by Dr. May Michael, Chicago, on the Physiology of the Gastrointestinal Tract of Infants and Children and Intestinal Bacteriology, by Dr. Arthur Isaac Kendall of Chicago.

Diseases of the Mouth and Tongue, by Dr. Thomas B. Cooley of Detroit, and Retropharyngeal Adenitis and Retropharyngeal Abscess, by the same author. Harelip, Cleft Palate and allied Malformations by Dr. James S. Stone, Boston, with many helpful illustrations.

Dr. Daniel N. Eisendrath contributes the chapter on Affections of the Cervical Lymph-Nodes. Thus in logical order appear the diseases of the structures of the upper digestive tract, until we come to chapter 45 by Dr. Isaac A. Abt under the title of Nutritional Disturbances of Infancy, followed by chapter 46, Gastrointestinal Disturbances in Older Children, by Dr. Clifford G. Grulee. These two chapters of 154 pages constitute a very important section of the book and are of fundamental importance in the volume on pediatrics. A closely related subject is Celiac Diseases, which include Chronic Digestive Insufficiency, Chronic Intestinal Indigestion, Intestinal In-

fantilism, Chronic Fat Indigestion, Fat Intolerance, prepared by Dr. W. McKim Merriott of St. Louis.

With chapter 49 comes Diseases of the Esophagus by Dr. Johanna Henmann, Chicago, and Diseases of the Rectum and Anus by Drs. A. L. Goodman and Carl B. Davis of New York City. The Surgery of the Gastrointestinal Tract in Children prepared by Dr. Harry M. Richter covers the field of intestinal surgery in children, including 183 pages. Dr. Richter has devoted much of his professional life to this class of surgery and has made many valuable contributions to the subject, especially to surgery of the stomach and to hernia in children.

Chapters 52 and 53, Diseases of the Liver and Pancreas, which are exceedingly valuable and important, are prepared by Dr. Langley Porter of San Francisco.

Chapter 54 brings us to the respiratory system and the first chapter under this division is an introduction by Dr. Carl John Wiggins of Cleveland, The Physiology of Respiration. The same logical arrangement of subjects is made here as to the digestive tract, commencing with the upper respiratory tract. The Diseases of the Nose and Paranasal Sinuses is by Dr. L. W. Dean of the Iowa State University, and the Systematic Effects of Chronic Infection of the Upper Respiratory Tract by Dr. Albert H. Byfield, also of Iowa State University.

We last come to Pneumonia, chapter 61, prepared by Dr. Edward A. Morgan of Toronto, Canada. Accepting the merits of the several contributions by men of international fame, we are constantly impressed with the advantages of an orderly arranged sequence of conditions and diseases.

OPERATIVE SURGERY

Covering the Operative Technic Involved in the Operations of General and Special Surgery, by Warren Stone Bickman, M.D., F.A.C.S. In Six Octavo Volumes, Totaling 5,400 Pages, with 6,378 Illustrations. Volume 3 Containing 1,001 Pages, with 1,249 Illustrations. Sold by Subscription Only. Index Volume Free. Cloth, \$10 Per Volume. W. B. Saunders Company, 1924.

We have in a previous number of this Journal reviewed Volumes I and II of this great work and now have before us Volume III. The first four chapters are devoted to the Eye, Ear, Nose and Osseous Air Sinuses of the Head, and include 316 pages, followed by ten chapters on the Face, Teeth, Hard and Soft Palate, Tongue, Pharynx, Salivary Glands, Larynx, Trachea and Esophagus.

We now come to the consideration of operations upon the Thyroid Gland. While our knowledge of the thyroid is not complete, there has been accumulated a vast amount of literature upon the subject, with a tendency to a standardization of opinion. The technic of surgical operation has been rather definitely agreed upon. The author presents the subject in a clear manner, with many helpful illustrations.

The chapter on operations upon the neck is one of great interest and importance and we especially commend these chapters to the careful consideration of the general surgeon who has frequent occasion to invade these structures.

Considerable space is given to operations upon the Breast. The questions involved in surgery of the breast, indications and contraindications for surgery are very fully considered, as they should be, for undoubtedly there is much reckless surgery done on this organ, and there is among general practitioners a tendency to delay in malignant cases. The technic of operations on the breast is illustrated in a helpful manner. Surgery of the Chest, which often involves questions of great difficulty, are fully considered.

The third volume covers a wide range of subjects, many of which belong to the domain of the specialist, yet the accomplished surgeon will find the field full of interest.

MANAGEMENT OF THE SICK INFANT

By Langley Porter, B.S., M.D., M.R.C.S., (Eng.), L.R.C.P. (Lond.), Professor of Clinical Pediatrics, University of California Medical School; Visiting Physician, San Francisco Children's Hospital; Consulting Pediatrician, Baby's Hospital, Oakland; Consulting Pediatrician, Mary's Help Hospital, San Francisco, and William E. Carter, Assistant in Pediatrics and Chief of Out Patient Department, University of California Medical School, etc. Second Edition. C. V. Mosby Company, St. Louis, 1924. Price, \$8.50.

This valuable book of 659 pages begins with a short chapter on General Considerations. Part I consisting of eleven chapters is devoted chiefly to the consideration of predominating symptoms. Part II to the study of the diseases of children and Part III to the methods of procedure in the treatment of sick children. Thus it will be seen that the book is arranged in a logical order. The first part presents a series of chapters in which the question of nutrition is fully considered. First vomiting, diarrhea and then nutrition itself. Affections of the digestive organs have an important relation to nutrition, which bear a direct relation to the resistance of the child to disease. The significance of pain and tenderness are dwelt upon, then convulsions and syncopies, either as the result of intestinal disturbances or poisoning. The treatment of these conditions, considering the cause and the instability of the nervous system. Chloroform and chloral are especially recommended to meet the immediate symptoms. Then follow the symptom fever.

With Part II comes diseases of the several tracts, Respiratory, Digestive, diseases of the Heart and Circulation, the Blood and Lymphatic System, the Nervous System, Skin and Genitourinary System, Internal Secretions. Infections form an important section of the book, which are treated in a thorough and careful manner as presenting a most important

subject for consideration in the management of the sick child.

The methods of procedure in the treatment of the sick child are presented in a separate section, which is an important consideration. The failure to employ correct methods is a frequent cause of unsuccessful treatment of children, for it is agreed that careless ways and lack of patience on the part of the practitioner are most unfortunate. As all general practitioners must treat children, a book of this kind should be within easy reach.

GERIATRICS

A Treatise on the Prevention and Treatment of Diseases of Old Age and the Care of the Aged. By Malford W. Thewlis, M.D., Editor Medical Review of Reviews; Associate Editor The Therapeutic and Dietic Age. With Introduction by A. Jacobi, M.D., L.L.D., and I. L. Nascher, M.D. Second Edition, Revised and Enlarged. C. V. Mosby Co., St. Louis, 1924.

A certain proportion of the human race live to reach old age and during this period suffer certain ailments more or less distressing. The period of "old age" varies in different persons as to age measured by years. With a certain number old age is premature and involves certain organic changes in organs or tissues. In others the changes are due to advanced years, presenting similar symptoms and need advice and treatment. The author appreciates the importance of rational care and treatment of those who have passed the age of maturity and are beginning to feel the depressing influence of age and who are often turned aside as hopeless. As a foundation, the author considers certain anatomical changes called senile degeneration, in which the waste of tissues is either not repaired or is replaced by tissue of a different character. There comes then a feeling of neglect which is expressed by peevishness, well known to the public.

Old age is often looked upon as a period of uselessness and retirement, when as a matter of fact it is a time for increased energy, either in the line of former employment or something else. If the physician and friends would insist on some congenial employment, the world to the old man would assume a different appearance. It is often said that so and so should get on the shelf and give his place to younger men. This is disastrous and soon fatal. How many old men have done their best work when it is said they should be retired? Which is an easy thing to do if it is insisted upon. In some lines of employment men are retired at a certain age; this is often necessary. We have to deal with many cases of this kind, but we have been able to divert their interests in some moderately productive employment, with great advantage.

In cases of senile dementia the problem is more difficult, but even in these cases medical treatment offers something. The question of diet is important

in keeping up nutrition. Constipation, arteriosclerosis, senile heart, senile nephritis, senile diabetes and senile paralysis are important conditions to be considered.

The therapeutics of senility occupy a considerable section of the book. Of the various therapeutic agents, the author places considerable stress on alcohol, with which we fully agree. Old people often present themselves to the doctor for treatment, and while he may recognize old age as fundamental, a careful examination may reveal the fact that medical treatment will not only improve the mental condition, but will reveal the existence of some condition that can be remedied.

This book should be read by every physician in general practice. He will find many suggestions which will give great comfort to the unfortunate old patient and make his declining years more happy.

A PRIMER FOR DIABETIC PATIENTS

A Brief Outline of Diabetic Treatment, Including Directions for the Use of Insulin, Sample Menus, Recipes and Food Tables. By Russell M. Wilder, M.D., Mary A. Foley, and Daisy Ellithorpe, Dietetians, The Mayo Clinic. Second Edition, Reset; 12 Mo. of 119 Pages; Philadelphia and London: W. B. Saunders Company, 1923. Cloth, \$1.50 Net.

This is a timely and handy book intended primarily for the use of patients who have been under treatment in hospital, and having had their tolerance established, are to carry on their further treatment at home. It certainly would seem to meet this need and further to offer aid to the physician treating them, or treating those not fortunate enough to receive hospital care. The menus, sample diets and tables of food values must be of great assistance both to physicians and patients. Other primers such as this might help in the education of the public concerning other conditions where their intelligent cooperation is greatly needed.

Reynolds.

THE BIOLOGY OF THE INTERNAL SECRETIONS

The Endocrine Factor in Development, in Subnormalities, in Neoplasms and Malignancy, in Nervous and Mental Diseases and in Heredity. By Francis X. Dercum, M.D., Ph.D., Professor of Nervous and Mental Diseases in Jefferson Medical College, Philadelphia; 12 Mo. of 241 Pages. W. B. Saunders Company, 1924. Price, \$2.75 Net.

Dr. Dercum has the fortunate gift of utilizing every scientific advancement that may have a bearing on the development of the human body to explain mental and nervous phenomena. In this interesting book Dr. Dercum has reviewed the various glands of internal secretion from a biological and develop-

mental point of view, and then proceeds to consider them in their interglandular relations.

First the Sympathetic Nervous System, Sex Glands interrelationship and then the Connective Tissue Group, noting that the gland cells are the seat of highly specialized processes very expensive to the organisms and in relatively small amount. The connective tissue group, or supporting structures, are subject to the invasion of sclerosing processes which have an important influence upon the glands.

These considerations lead to the influences of gland abnormalities on mental conditions, diseases, deteriorations. Two special subjects are considered: the Endocrine Factors in Maniac Depressive diseases, and Neuropathy and Heredity. The book is a very interesting exposition of the Biology of the Internal Secretions considered from a neurological point of view.

NEW AND NON-OFFICIAL REMEDIES, 1924

Containing Descriptions of Articles which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1923; Cloth; Price, Postpaid, \$1.50. Pp. 422+XXXIX. Chicago: American Medical Association, 1924.

Every physician is continually bombarded with literature, scientific and otherwise, concerning the newer remedies. He has neither the time nor the opportunity to investigate all even of the more promising preparations, and obviously he cannot try them upon his patients without investigation. He must know the composition of the article, must know that the claims under which it is marketed are true; in other words, he must have some critical statement of the actions, uses and dosage as well as of the chemical and physical nature of the product.

This need of the physician is met in New and Non-official Remedies, which is the official publication through which the Council on Pharmacy and Chemistry annually presents to the American medical profession disinterested, critical information about the proprietary preparations which the Council deems worthy of recognition. In addition to the description of these proprietary preparations, the book treats those non-official remedies which, in the opinion of the Council, are worthy of consideration.

As the book is designed for ready reference, each preparation is classified, and each classification is preceded by a general and critical discussion of that group. These articles are written by those who may speak with authority on the separate subjects, and are a compilation of the best accepted opinions of today. Thus there is a general article on lactic acid-producing organisms in which the newly accepted *Bacillus acidophilus* preparations are discussed in connection with other accepted sour or fermented milk preparations. The animal organ preparations, the biologic preparations, the arsenic preparations, and so on, are discussed in such a manner as to make the accepted facts concerning each group readily available.

A glance at the preface of the new volume will show that the book has been extensively revised. In fact, each new edition of New and Non-official Remedies is essentially a newly written book, fully indexed.

Physicians who wish to know why a given proprietary is not described in New and Non-official Remedies will find the References to Proprietary and Unofficial Articles not found in N. N. R. of much value. In this chapter (in the back of the book), there are references to published articles dealing with preparations which have not been accepted.

New and Non-official Remedies is a book that a physician who prescribes drugs cannot afford to be without. The book contains information about medicinal products which cannot be found in any other publication.

The book will be sent postpaid by the American Medical Association, 535 North Dearborn Street, Chicago, on receipt of one dollar and fifty cents.

METHODS IN MEDICINE

The Manual of the Medical Service of George Dock, M.D., Sc.D., Formerly Professor of Medicine, Washington University School of Medicine; Formerly Physician-in-Chief Robert A. Barnes Hospital, St. Louis, and George R. Herrmann, M.D., Ph.D., Instructor in Medicine, University of Michigan, Etc.; Illustrated. C. V. Mosby Company, St. Louis, 1924. Price, \$6.50.

This volume of 521 pages is devoted to methods of hospital administration and methods of management of medical cases evolved by Dr. Dock and his associates in Barnes Hospital. The volume begins with the duties of the resident physician and proceeds with a consideration of the duties of the various assistants of the several divisions, interns, teaching and clinics, x-ray requisitions, treatment and drugs, transfer and discharge of patients. Record room rules, history taking and physical examinations, laboratory notes, suggestions and rules.

Part second relates to special procedures. First, gastrointestinal cases. Second, Renal Function Tests, various methods. Third, Physiologic Chemistry Methods. Fourth, Routine Bacteriological and Serological Methods. Fifth, Dietetic Methods. Sixth, Emergency Measures. Seventh, Management of Infectious Diseases, etc.

This is merely an outline of the contents of the book, which is of very considerable value to hospitals of every kind.

ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR 1923

Cloth; Price, Postpaid, \$1. Pp. 72; Chicago: American Medical Association, 1923.

This volume contains the unabridged Council reports that have been adopted and authorized for

(Continued on Advertising Page xvi)

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BOOK REVIEWS

(Continued from Page 394)

publication during 1923. Some of the reports, due to their technicality, have only been abstracted in The Journal; others have been published in entirety, and still others have never been published elsewhere.

In this volume the Council sets forth the reasons that certain proprietary remedies were found unacceptable for New and Non-official Remedies, the reason why it has been deemed wise to omit certain hitherto accepted articles from the present, 1924, edition, of New and Non-official Remedies, and the volume also contains certain preliminary reports on products that have therapeutic promise, but are as yet in the experimental stage. There is a long report on the widely advertised Fleischmann's Yeast, which was not found acceptable. Benetol, another article that has had much mention in the daily press, receives attention. There are reports on apiol and mercurial oil, which have been omitted from New and Non-official Remedies. In addition to these types, there are preliminary reports on bismuth in the treatment of syphilis, ethylene as an anesthetic, peptone in the treatment of migraine, and tryparsamid; and there are reports of such general interest as that on intravenous therapy and that on progress and conservatism in therapeutics.

For one who wishes to be cognizant not only of what the Council has done, but why it has done it, the book will be very valuable, for it supplements New and Nonofficial Remedies with a more detailed account of the activities of the Council during 1923. New and Nonofficial Remedies records those proprietary remedies which have been accepted; Council Reports treats those which have been found unacceptable, and those which give promise of becoming valuable.

NEW AND NON-OFFICIAL REMEDIES

In addition to the articles enumerated in our letter of May 29, 1924, the following have been accepted:

Abbott Laboratories:

Benzyl Fumarate.

Deshell Laboratories:

Petrolagar—

Petrolagar (Unsweetened).

Petrolagar (with Phenolphthalein).

Petrolagar (Alkaline).

Hoffman—La Roche Chemical Works:

Digalen—Roche (Cloetta).

Ampules Digalen—Roche (Cloetta), 1.1 c.c.

Tablets Digalen—Roche (Cloetta).

Hypodermic Tablets Digalen—Roche (Cloetta).

Oleo—Bi—Roche:

Ampules Oleo—Bi—Roche, 2 c.c.

Mead Johnson and Company:

Mead's Cod Liver Oil.

H. A. Metz Laboratories:

Sulpharsphenamine—Metz—

Sulpharsphenamine—Metz, 0.05 Gm. Ampules.

Sulpharsphenamine—Metz, 0.075 Gm. Ampules.

Sulpharsphenamine—Metz, 0.1 Gm. Ampules.

Sulpharsphenamine—Metz, 0.15 Gm. Ampules.

Sulpharsphenamine—Metz, 0.3 Gm. Ampules.

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DISEASES AND FATE OF TWINS*

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The practice of infanticide in primitive peoples had its basis primarily in superstition, economic necessity being a secondary cause. Thus, it was customary to kill children born on unlucky days, or during unlucky periods, as in March or April, or on Wednesdays or Fridays. Among the Antankarana tribes of the Amber Mountains, a child that sneezed at, or shortly after, birth was destroyed. Infanticide was practiced generally on all children born with blemishes or with teeth.

The birth of twins was, on the whole, regarded as ill-omened, though here and there a few tribes, as the South and East African and the Upper Nile tribes, regarded the event as auspicious. The Arunta tribes in Central Australia and the Northern and West Africans considered twins an unnatural and uncanny manifestation, and killed both children at birth. Some tribes, as for example the Kaffirs, killed only one child, either outright or through neglect.

Among the Western Victorian tribes, where food was often scarce and a large family troublesome to move about, it was customary to destroy the weaker child, irrespective of sex. In some parts of the Benin territory, twin-bearing women and their offspring were sacrificed to a certain devil, unless the husband was more than ordinarily tender, when he was allowed to buy off his wife by the sacrifice of a female slave in her place. This tenderness did not extend to the twins, for the savage law required their sacrifice.

However, it is with the modern biological, rather than with an anthropological study of twins that the present paper is concerned. Grassl¹ expresses the opinion that multiple pregnancies are neither atavistic nor the result of variation, but simply indicate an excess of the natural or usual fertility. He attempts to confirm this opinion by his experience obtained by collecting hazel nuts for a period of thirty years. When the season is

favorable and the crop is unusually good, double ones occur with greater frequency than in those years when the productivity of the bushes is small. He found the same true of dandelions. In those seasons when dandelions are abundant, double flowers are of common occurrence.

It has also been maintained that climate, race, and the age of mother or father influence the birth of twins. Bruder² found that twins from one ovum are usually born of women under twenty-five years of age, twins from two ova of women over twenty-five. Primipara are more likely to have one ovum than two ovum twins. In every age of development one ovum twins are weaker than those from two ova because obviously one placenta cannot nourish two fetuses adequately.

Two kinds of twins are distinguished: those that originate from a single ovum, and those that originate from two separate and distinct eggs. Two ova escaping from an ovary at the same time may be fertilized and ultimately develop into two distinct fetuses in the uterus. If the ova locate in close proximity, the two placentas fuse, but their circulatory mechanism does not. If the two ova locate at a considerable distance from one another, two distinct placentas are formed. Where the twins originate from one ovum—so-called homologous or monochorionic or identical twins—it is assumed that two polar bodies must be extruded.

The placenta in uni-oval twins is always single. There are usually two cords, though occasionally there is only one which bifurcates near the body of the fetuses. One egg twins are relatively rare. Ahlfeld³ found in 1157 twin pregnancies only 15.55 per cent that were uni-oval. While proof is lacking, nevertheless there are those who think that fecundity and a tendency to bear twins or triplets are inherited.

It is also maintained that there are racial differences in the frequency of twin births. For example, twin births occur more frequently in the Slavic, Hungarian, Finnic and Germanic races. It is said that twin pregnancies are rare among Latin races, and that they occur less commonly

*Presented before the Seventy-Third Annual Session, Iowa State Medical Society, Des Moines, Iowa, May 7, 8, 9, 1924.

in Japan than in Europe. Of 1,339,975 births in the United States in 1917, 1 in 93.1 were twins. Statistics gathered from all parts of the world seem to indicate that on the average 63 per cent are of the same sex, 37 per cent of opposite sexes.

A. Orgler⁴ recorded some observations on twins from his examination of twenty-six pairs. The weight was the same in only five pairs. The difference in weight was more marked when the twins were of different sex. They usually gained at the same rate, though frequently one continued to be heavier than the other for a considerable time, unless one or the other fell ill. He also observed that if both twins fell ill, one of them usually lost more markedly than the other, and when they regained health, both gained at the same rate, though the original disproportion continued for some time.

In some cases the heavier child is more resistant and becomes less severely ill when attacked than the lighter one. In a number of cases this does not hold.

The average weight of twins is approximately equal to the weight of a single newborn. The average weight of uni-sexual twins was 3960 grams, though the female pair weighed 840 grams less than the male. The average weight of the male pairs was 4380 grams, of female pairs 3540 grams, and the average weight of one twin was 1980 grams, though there was a difference in the weight of the sexes. Thus, boys weighed on the average 2190 grams, girls 1770 grams.

Frequently there is a difference in the length of the children at birth. While many of them seem to increase at the same rate, in a certain number the increase in length occurs at different rates, so that the one shorter at birth may reach the height of the longer one or even overtake him. According to the statistics of N. Miller⁵ the average length was 43 cm. and the girls averaged 3 cm. less than the boys. The average height of boys was 45.5 cm., that of girls 41.5 cm. New-born twins, especially those of the same sex, may be approximately of the same height and weight.

Differences in the development may be accounted for at times on a purely mechanical basis. In some instances the nutrition of the two fetuses is unequal. In one case the umbilical cord may be short and straight, in the other one, long and winding. It is evident that in the former the blood supply would be greater and the nutrition would be better. At other times, one placenta is located favorably on the uterine wall, and the other one is attached in an unfavorable position. The greater the respiratory surface of the placenta, the better the fetus develops. In other words, the larger the placenta, the more closely it

is approximated to the uterine decidua, and the more favorable are the conditions of the fetus.

Newman⁶ states in his "Physiology of Twinning" that there is a popular impression that in human twins one is usually stronger and more vigorous than the other. Practical experience tends to bear out this impression. Even in identical twins, there is usually a more vigorous twin who is the dominant member of the combination. One twin tends to gain a physiological ascendancy over the other to the slight or very great detriment of the latter. Spaeth⁷ found no evidence that the twins of either type had any definite physiological effect upon each other, though he grants as an evidence of inter-influence the condition of *situs inversus viscerum*. Newman⁶ points out the disadvantages of twinning by saying that when two or more fetuses come to occupy the space usually filled by one, the twins, whether of the one egg or two egg type, crowd each other and compete for the common food supply. In the case of two egg twins, the competition is for placental surface.

The period of uterine gestation is at best a hazardous one. In addition to those hazards that are met by single embryos and by two egg twins, there are certain very serious special dangers that fall upon one egg twins by reason of their close genetic relationship. One egg twins vary according to the period when the placenta is developed, and consequently one may receive more nutriment than the other. Moreover, on account of the difference in the blood supply to the two fetuses, one is more favored than the other, a condition which may even lead to the death of the less favored one. Because of these variations in food supply and as a result of one fetus crowding upon the other, there is not only a disproportion in size and weight of the two infants, but malformation and conditions of arrested development may be noted in the weaker twin. Thus one of the pair may be strong and healthy at birth, the other weak and delicate physically and defective mentally.

In my practice I have such an instance. The weaker one was extremely difficult to nourish, was very much retarded physically, and has remained defective mentally, while the other child developed rapidly and normally. The twins are now fifteen years old, the one a tall, bright, well-developed girl, while her sister is infantile in size and has attained no mental development. Recently I saw a pair of male twins, three years old. One was bright, well grown, and his development was perfectly normal. The other weighed only twenty pounds at three years, teeth developed late, and his static development was markedly

delayed. He was mentally much retarded and unable to talk. The normal twin's birth weight was six pounds, the other's three pounds. Instances of this kind must be very frequent.

Dentition may occur at different periods in the two infants, and this does not always depend on the severity of the rickets. In one pair that seemed free from rickets, the first dentition occurred at the seventh month, while the other infant developed his first teeth two months later. At ten months the first infant had eight teeth, while the other had only two. The difference between the eruption of teeth in the two babies may be as long as four months.

Francis Galton⁸ made a study of twins from the biologic and genetic aspects, and hoped to be able to differentiate between the effects of tendencies received at birth and of those that were imposed by the special circumstances of their afterlives. He sent questionnaires to persons who were either twins or near relatives of them. He received eighty replies, thirty-five of which entered into instructive details. In a few of these not a single point of difference could be specified. The color of the hair and the eyes was almost always identical. In many instances the twins were of the same height, weight, and strength. In others there was a notable difference in these factors, though the resemblance was, in other respects, close.

The manner and personal address of the thirty-five pairs were similar. The speaking voices of twins were usually the same, even where they sang in different keys. The handwriting was usually dissimilar, no matter how much the twins resembled each other. There is, however, one exception to this in Galton's series, where the handwriting was so similar that the two brothers could not distinguish their own lecture notes. In a number of Galton's collected cases, the twins suffered from some special ailment or had some exceptional peculiarity. Thus, several pairs showed peculiarities in their fingers, consisting of a slight congenital flexure of one of the joints of the little fingers. Another pair of twins had crooked little fingers. There were frequently close resemblance and correspondence in the falling of the hair. Several died of the same diseases. Very frequently both fell ill at the same time, not necessarily with contagious diseases. Thus one parent writes to Galton: "If anything ails one of them, identical symptoms nearly always appear in the other." Galton also points to the extreme resemblance and similarity in the ideas and associations of twins. They are inclined to make the same remarks on the same occasions, begin to sing the same songs at the same

moment. One would commence a sentence and the other would finish it.

Galton found from his inquiry that while there were many points of resemblance in taste and ideas, there were certain differences which may be represented by the following groups of qualities: The one was vigorous, fearless, energetic; the other was gentle, clinging, timid. Or the one was more ardent, the other more calm and placid. Or again, the one was more independent, original, and self-contained, the other more hasty, generous, and vivacious. The difference was that of intensity rather than energy. It did not involve their fundamental characters. Ill health might depress the more vivacious. Galton says the difference was in the keynote, not in the melody. In the "Comedy of Errors" Shakespeare makes Dromio say, "Methinks you are my glass, and not my brother."

Twins may be dissimilar at birth and tend to become more alike on account of the close relationship in their lives.

Twins may present sharply contrasted characteristics in their physical, as well as in their mental, constitutions. The dissimilarity of twins is illustrated by the story of Esau and Jacob who, as it is recorded, differed even at birth. "The boys grew and Esau was a cunning hunter, dwelling in the fields, and Jacob was a plain man, dwelling in the tents." As they grew older, Esau became a hairy man and Jacob had a smooth skin. The dissimilarity at birth continues more or less throughout life, no matter how close the association or how similar the training.

Even joined twins may show striking dissimilarity. This is illustrated in the famous Hungarian joined twins, Judith and Helen. Judith was homely, nervous, hypochondriacal. Helen was pretty, healthy, with a happy disposition. Judith suffered frequently from neuralgia and convulsions, while Helen remained healthy except for an attack of pleurisy. Menstruation occurred at different periods.

The Siamese twins also showed dissimilarity in characteristics. They married at the age of thirty-two and between them had twenty-two children. Cheng was weaker and of an equable temperament; Eng was stronger, though inclined to be melancholy. The brothers often quarrelled. This occurred most often if one of them imbibed too freely. Finally Cheng developed hemiplegia, which was followed by pneumonia, of which he died. Eng witnessed the tragedy of his brother and asked to be released. The operation was performed at his request and his death occurred two hours after the death of his brother.

Gesell⁹ reports twins who showed superior in-

tellest. They both sat up at six months, walked and talked at eleven months, learned French at three years, and were in the seventh grade at the age of nine. They resembled one another, both physically and mentally. In fact, there was no noteworthy distinction between the two. Their physique, countenance, demeanor, conversation were completely similar.

Homologous twins usually show marked similarity physically, as well as mentally. They resemble each other in weight, body structure, voice and gait. They may learn to speak and walk at the same time. Not rarely they show the same anomalies and faults of development. They may become sick at the same time and die almost at the same time.

Ganther and Rominger¹⁰ studied the finger prints of five pairs of one ovum twins and forty-two pairs of two ovum twins. They found that in the five pairs of one ovum twins there was marked similarity in the finger prints, and in the system of lines of the hands. In the two ovum twins there was a certain similarity of structure, but never the striking correspondence of the system of lines. They conclude from their studies that a striking similarity of the structure of the lines of the hands indicates that the twins are uni-ovular. H. Wilder,¹¹ in *Science*, 1909, also concluded that finger and sole prints which are identical, or nearly so, indicate single ovum twins.

Ahlfeld³ collected seven cases of similar malformations in homologous twins. Others have observed patients in which both had pseudo-hermaphroditism. D'Outrepoint reports a case in which both twins had spina bifida. According to Siebold and Velpeau¹² both twins had six fingers. Lehmann¹² writes of twins with cerebral hernia and hypospadias.

Miller⁵ describes 247 pairs of twins of the same sex which he studied at the Moscow Findelhaus. He assumed that thirty were homologous. Twenty-three showed similar or analogous malformations. In five pairs the twins had hypertrophic umbilicus. Four had dolicocephalic skulls and four others congenital phimosis. Two had congenital depressions of the sternum. Two other pairs had marked shortness of the frenulum of the tongue.

Some of the twins showed anomalies occurring in both during the early days of life as a result of acquired disease. Thus, two boys had simple pemphigus. Two other male twins both developed mastitis on the left side, followed by erysipelas. They recovered practically at the same time.

Brophy¹³ quotes a paper by Albert D. Davis of Omaha, on twins having congenital cleft lip and

palate. In six twins one of each pair had cleft palate. Shearer¹⁴ reported three cases of cleft palate in twins, in one of which both girls had cleft palates. One had a cleft lip on the right side, the other on the left.

Among the rare conditions may be mentioned a case of congenital megacolon in one of twins. H. Goldstein and M. Schenck¹⁵ contributed a description of an unusual case of dwarfism in twins. These were seven years old. The smaller one showed on examination that half of the body was uniformly smaller than the other side. The smaller child was mentally backward. Harrison¹⁶ reported in the *Virginia Medical Monthly*, 1919, one of twins with congenital absence of the right femur.

The temperature of twins sometimes varies at birth. One infant may show two to three-tenths of a degree higher temperature than the other. As a general rule, well-developed twins have a slightly higher temperature than those who are weakly.

Prematurity—Twin pregnancy is a relatively frequent cause of premature birth. Ylppo's¹⁷ series of prematurity showed that out of 688 cases, 19.2 per cent, or 128 cases, were twin babies.

The prematurely born, whether singly or in pairs, are predisposed to a variety of disorders. The susceptibility of prematures to rickets is a common observation. Huenekens¹⁸ found that of seventy cases of premature twins, fifty-eight developed definite signs of rickets. He observed that the condition appeared sometimes before the fourth month of life. Craniotabes, an early symptom, may be present in the sixth week of life.

Other rachitic manifestations occur in premature twins as well as in prematures of single birth. Among the early symptoms may be mentioned rachitic rosary and rickets of the long cylindrical bones. In premature infants there is a deficiency of the calcium content as well as of other mineral substances. By the third or fourth month, there is a lowered phosphorus and calcium content, and rickets and its sequelae result.

Premature or underweight newborn twins frequently manifest spasmophilic diathesis and tetany. Evidence of spasmophilia may be found in these infants even if they are born at full term.

An instance is cited where, in a pair of twins, the one developed laryngismus stridulus, facial phenomenon, and electrical overexcitability, giving all the symptoms of spasmophilia, while the other remained free from this disorder. It has also been observed that craniotabes may be present in one infant and absent in the other.

Langstein¹⁹ reports a case of twins in whom

convulsions always appeared when artificial food was used as a substitute for or complement of breast feeding. It should be noted, however, that the twins did not develop the tetany at the same time. One pair developed spasmophilia within seven to twelve days after the administration of artificial food, the other eighteen to twenty days thereafter.

A pair of twin girls, nine weeks old, came into my service on the 19th of July, 1922. The first one had convulsions lasting three days. The other twin had convulsions which lasted a week. They both had marked craniotabes, Harrison's groove, slight rosary, and protuberant abdomen. The Chvostek sign, as well as carpopedal spasm, were present in both. Both were breast fed. Thus, it is evident that these nine weeks old infants had almost identical attacks of tetany with florid rickets.

In twins not prematurely born, rickets and spasmophilia in both children is a frequent occurrence and is commonly observed. Orgler⁴ records, in his series, a case of rachitic twins where the degree of intensity was different. The one was severely affected, the other only moderately. He also recorded a case in which one child had developed scurvy, the other had not. Alfred Hess²⁰ says that twins have a special tendency to develop rickets, and that this is partly due to a sub-normal quota of anti-rachitic constituents stored in their tissues and also to the variable susceptibility of infants to rickets.

Anemia—The anemias of prematures may be of a high degree and may be prolonged into the second and third year, though this condition may occur in children born at term.

A pathological anemia occurring in twins may affect one or both. The hemoglobin is usually low and the reduction may be observed during the first days of life. Occasionally one or both parents show marked debility or anemia. Charles Herrman²¹ states that twins and single infants born prematurely come into the world with an imperfectly developed blood-forming system and, if some injurious external agent affects the infants, this latent inferiority soon manifests itself. He says that some of these infants show their anemia from birth, some not until later. Von Jaksch's pseudoleukemic anemia may occur in one or both twins. Finkelstein²² reports twins who developed a clinical type of pseudo-leukemic anemia after infections.

Chlorotic anemia has been described from Finkelstein's clinic by Kunkel as occurring in prematures and twins. Kunkel's investigations considered the blood changes in premature and feeble children. Among this group were seven pairs of

twins, sixty prematures, seven feeble children. He found that most of them suffered from a chlorotic type of anemia characterized by oligosideremia and slight diminution of the cellular elements of the blood. Spleen and lymph nodes are not enlarged. This form of anemia occurs very early in life. This is particularly true of the prematures. Kunkel gives several instances in which the twins were much below normal in weight and the anemia continued until one infant was four months old. At that time his hemoglobin was 43. When the children were taken out of doors, the condition improved, though at the sixth month the hemoglobin content had reached only 60 per cent. Occasionally only one of the infants becomes anemic, though as a rule both are affected, but there may be a difference in degree. Senator reported a case of splenic leukemia which developed in twin sisters of eighteen months. Both died about the same time.

Mental Affections—Mongolian idiocy may occur in one or both twins, though in the majority of the cases only one of the pair is affected. Halbertsma²³ quotes sixteen instances where one of the twins was a mongol and two where both were mongols. His table is appended.

The mental affections of twins do not differ in form or in frequency from those of other individuals. A limited number of psychic disturbances have been reported which do not differ from those encountered in children of single birth.

Epilepsy of both children with mental deficiency is reported. A few cases of dementia precox have been recorded. Hydrocephalus occurred in a pair of twins. One was delivered by craniotomy, the other was born spontaneously. There was no syphilis or alcoholism in the parents. The father was by occupation a painter, but did not suffer from lead poisoning. The second infant died on the twelfth day.

Soukhanoff²⁴ made an analysis of thirty-three cases of insanity in twins in 1900. In some there were congenital mental defects, in one dementia precox, in one general paralysis. In most cases the twins were uniovular, alike in appearance and mental character, and the form of insanity in each pair was the same.

Schutz and Ostermayer²⁵ state that the cause of psychosis lies in a high grade similarity in the structure of the brain, so that the psychic functions show a parallelism both physiologically and pathologically. Ostermayer collected fifteen cases from the literature. Duncan Campbell²⁶ found twenty-nine cases of insanity in twins. Among those described are maniac depressive insanity, melancholia, paranoia, dementia precox, imbecil-

Cases of Mongolism in One of Twins

No.	Author	Sex of Twins	Type of Twin
1.	Fraser (J. Ment. Sc., 1877).....	The Mongol was one of twins.....	Unknown
2.	Hultgren (Nord. med. Ark., 1915).....	Mongol boy, normal girl.....	Two egg
3.	Neuman (Berl. klin. Woch., 1899).....	Mongol boy, normal girl.....	Two egg
4.	Cassel (Berl. klin. Woch., LIV, 159, 1917).....	Mongol boy, normal girl.....	Two egg
5.	Cassel (ibid.)	Mongol boy, normal girl.....	Two egg
6.	Shuttleworth (Brit. M. J., II, 661, 1909).....	Mongol girl, normal boy.....	Two egg
7.	Comby (Arch. d. med. d. enf., 1917, XX, 505)...	Mongol girl, normal boy.....	Two egg
8.	Weigall (quoted by Comby).....	? ?	Unknown
9.	Swanberg-Haynes (Arch. Neurol. and Psych., I, 717, 1919).....	Mongol boy, normal girl.....	Two egg
10.	McLean (J. A. M. A., 1922).....	Mongol boy, normal girl.....	Two egg
11.	Halbertsma	Mongol boy, normal girl.....	Two egg
12.	Halbertsma	Mongol girl, normal girl.....	Two egg
13.	Halbertsma	Mongol boy, normal girl.....	Two egg
14.	Halbertsma	Mongol boy, normal girl.....	Two egg
15.	Halbertsma	Mongol boy, ?	Two egg
16.	Clay (Arch. of Pedia., Nov., 1922).....	Mongol boy, normal boy.....	Unknown

Cases of Monoglim in Both Twins

No.	Author	Sex of Twins	Type of Twin
1.	Hjorth (quoted by Shuttleworth).....	Same sex	One egg (?)
2.	De Bruin (Nederlandsch Tijdschr. v. Geneesk., 1902)	Two Mongol boys.....	One egg (?)

ity, and idiocy. In several of the cases which he reported the twins were living in different cities, but the disease occurred at the same time and apparently in the same manner. Elmiger²⁷ believes that the psychoses in twins must be regarded in the same way as are psychoses in siblings. Mental deterioration is not peculiar to twins, but merely indicates that they are of the same constitution and predisposed to the same hereditary disorders. Migraine has been observed in both twins.

J. H. Hess²⁸ reports Friedreich's ataxia in twin brothers, aged ten years. This condition followed an acute infectious disease when they were eight years old. The affection had been progressive in both boys, the one showing less involvement than the other. Family history was negative. The disorders from which these boys suffered consisted of a mask-like face, tremor of the tongue, scoliosis, poor muscular development, awkward, staggering gait, slow, scanning speech, defective memory. The Romberg and Babinski signs were positive. One year later the defective gait was more pronounced. Horizontal nystagmus was present. The arches of the feet were very high. The author makes some reservation about the diagnosis, and considers the possibility of a post-infectious encephalitis, as well as that of a multiple sclerosis.

Infections—According to Orgler's⁴ observations, the behavior of twins towards infectious

and nutritional disturbances was not always the same. One twin became ill with bronchitis, while the other developed whooping cough. The first recovered in two weeks, while the latter remained ill for two months.

They often reacted differently to infectious diseases. One twin died of generalized miliary tuberculosis, while his mate developed tuberculides and a strongly positive Pirquet reaction and the disease ran a more protracted course. In those instances where one twin developed rickets or exudative diathesis, the other had it also, though the intensity of the manifestations was frequently variable, the disease being intense in one child, mild in the other.

There is also recorded a case of single ovum twins who seemed to be similar physically and mentally, but who showed some difference in their resistance to infection. Whether this difference in resistance is peculiar to one ovum twins cannot be definitely stated. It may be assumed that there has been an unequal division of the germ plasm in the uniovular variety which might account for the variable behavior to infection.

Three sets of double ovum twins, observed by Orgler, showed uniform behavior to infection. However, in the case of twins of opposite sex who were admitted to the hospital at the age of five weeks and remained there for a considerable length of time, the boy, at the age of six months,

developed measles, while the girl remained free from the disease, notwithstanding the fact that they occupied adjoining cribs.

Ballantyne²⁹ in his *Antenatal Pathology* records a case where both twins acquired variola from their mother. In another case, one was affected while the other escaped. In a third, both fetuses exhibited the eruption. One presented many pustules, while the other had only a few.

During infancy and early childhood twins, like other siblings, develop almost simultaneously intestinal upsets, grippal infections, measles, mumps, chicken-pox, scarlet fever, and other infections.

Syphilis—Where one or both parents are syphilitic, the twins, as a rule, suffer the same fate as does the fetus in a single pregnancy. There are cases recorded, however, where one of the twins presents evidence of manifest lues while the other seems to remain immune. Grete Singer³⁰ reports twins, a girl and a boy, one of whom was clinically and serologically luetic, the other normal. The non-infected infant showed negative Wassermann reactions during a period of two years. Finger³¹ reports cases of dissimilar severity of syphilis in twins, i.e., one was more severely affected than the other. There are numerous corroborative reports in the literature, in which one case was syphilitic, the other healthy. Kosinski³² reported syphilis in twins. The boy showed severe symptoms of hereditary lues. The girl, who was observed for twenty-four years, remained entirely free from the disease. No satisfactory explanation can be found for this inequality in the distribution of the disease. Why one child should be infected and the other remain free is difficult to conceive. It has been suggested, however, that the difference in the severity of the disease is due to different modes of infection. It is thought that this is more probable than that there is a difference of immunity in the two fetuses.

Miscellaneous Diseases—In Ballantyne's²⁹ *Antenatal Pathology and Hygiene* a case of Stocker is quoted. A woman had eleven children, including one set of triplets and two sets of twins. The twins under consideration were female, one of whom was a giant infant. She menstruated at three years of age, and when eight had the appearance of a girl of twelve, measuring 139 cm. in height and having well-developed genitals and mammae. The other girl developed normally.

Sclerema neonatorum may occur in one or both twins. Northrup³³ reports sclerema in one. Carminati³⁴ states that the disease is especially common. Ichthyosis may be a familial disease, attacking several children of the same family. Ballantyne reports a woman who gave birth to

twins, one of whom suffered from ichthyosis. There are a few cases recorded in Tarnier Budin's³⁵ text-book of midwifery in which one of the twins suffered from general dropsy. One fetus was affected with general dropsy. There were two distinct amniotic sacs. The membranes of the edematous fetus were infiltrated with serum. In every case the dropsical fetus was still-born, while the other twin was viable and unaffected by this disorder. Galton⁸ reports a case in which both grown-up twins developed Bright's disease at the same time. Cases of pemphigus, eczema and the so-called exudative diathesis are not infrequently recorded, but differ in no way from the same affections when they occur in other children. There is recorded a case of eczema in one twin, while the other was free from the affection, at least during the time when they were both examined. Kretschmer³⁶ reports twin girls, fourteen years of age, who entered the hospital at the same time, both of whom showed renal tuberculosis. Worcester³⁷ reported phthisis occurring at the same time in both children.

Mortality—Twins in general are characterized by low vitality. The death rate is much greater than in single newborns. In the first weeks after birth the mortality is 40 per cent. It is generally stated that twins have thirteen times less chance to live than ordinary newborn babies. In the report of Miller's⁵ cases at the Moscow Infant Asylum 3883 pairs of twins were observed among 277,902 children. Sixty-two and nine-tenths per cent of these died during the first weeks of life. In half of the cases, both twins died on the same day. In the remainder, the one lived one or two days longer. Septicemia and syphilis were frequent causes of death. The greatest mortality of those infants who survived the first few weeks of life seems to concentrate in the first and second year. After the fifth year of life, the mortality of twins and non-twins is about the same.

It has been estimated that out of a hundred pairs of twins born there are eighty pairs who survive. In fifteen pairs, only one child survives; in five pairs both children die. According to Hecker,³⁸ 15 per cent die during the first eight days. It has also been said that twin girls seem to have greater viability than twin boys.

Since Galton's memorable studies no investigation has been conducted on the pathological aspect of twins. The British Medical Journal of 1912 contained a very interesting and suggestive editorial on twinship and fame. The editorial was suggested by the remarks of Doctor Kaiser, of Dresden, who stated that he knew of no famous man who had a twin brother. A similar query had been raised by Doctor Simpson in the Edin-

burgh Medical Journal of 1862. Simpson was not aware of a single instance in which a twin had distinguished himself intellectually. The editorial writer takes issue with these two gentlemen and goes on to show that there were several twin brothers who had won more or less fame. In attempting to collect information on this subject, it was found that no records of morbidity or mortality in twins were available.

It is to be regretted that there are not more data at hand concerning the development, physical and mental, of twins during their later lives. To make such data available, it would be important for obstetricians to record in every instance whether the twins originated from one or two eggs, which information should also be supplied to the families. Parents, physicians, teachers should be able to furnish significant information. Twins themselves or their friends might in some instances contribute important biographical sketches, and life insurance companies and bureaus of vital statistics should furnish details about the causes of death. Information of this kind would be of great interest, if not of practical value, to a great number of people. Knowledge of such facts would constitute a noteworthy contribution to medical science.

In closing, I may perhaps be permitted to add a strictly personal word. Though no survivors remain to give exact details, my own twin brother was the second born. We were probably two ovum twins. In infancy and early childhood he was the weaker.

Of physical characteristics it may be stated that he grew to be the taller. There was enough resemblance so that we were frequently mistaken for one another. He had a marked astigmatism in his left eye, while I have a high degree of astigmatism in the right. Physically, he resembled the paternal, while I resembled the maternal, side.

Of the diseases of early childhood we naturally had the same infections at the same time, and we usually were ill during the same period. During boyhood days he was inclined to be pale and thin, quiet and calm, while I was belligerent and aggressive. We attended the same school and, for the most part, were in the same classes. We varied somewhat in school standing at different times.

In middle life my brother suffered from an acute thyroiditis, and about his fiftieth year he developed a severe cholecystitis. In his fifty-fifth year a jaundice developed which was occasioned by an acute inflammation of the liver and which resulted in his death. I have also had for more than fifteen years occasional attacks of

cholelithiasis, on one occasion associated with severe jaundice.

Mentally, we resembled each other in some degree. Our likes and dislikes were similar. He was quiet, calm, friendly, and studious. He had a decidedly judicial temperament. Early in his life, as well as in his later years, he had decidedly the uplift spirit. He was anxious to do something for the betterment of his fellow man and this he did in various ways.

He was a man of scholarly attainments and, so far as his pursuits permitted, he lived the intellectual life. Temperamentally, I differed from him. I had many of his characteristics though probably less sentiment and less of the higher emotional qualities. He was decidedly more spiritually minded and his mental processes were more analytical.

It is almost too personal and too sacred to speak of the bonds of affection that existed between us. Whether this was due to nurture or nature I am unable to say, but there was a close sympathy between us which cannot adequately be described, and which remained until his death.

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PRECANCEROUS ERUPTIONS OF THE SKIN*

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Bloodgate states that every case of cancer of the skin of which he has a complete record originated from some abnormality of the skin, and not from normal epidermis.

Maud Slye, as the result of her prolonged and painstaking selective breeding experiments in mice, makes the following statement: "What seems to be transmitted in cancer is the potentiality of the germ plasm to produce an individual whose tissues shall proliferate in the lawless fashion of the neoplasm, under a given provocation. All my observations in this laboratory tend to show that the provocation is over irritation at the point where the cancer occurs".

Hartzell regards "it as fairly well demonstrated that carcinoma results from a profound and more or less permanent alteration of the mechanism of cell division. This alteration may, in my opinion, result from long-continued irritation of a mechanical or chemical kind, including under this latter the effects of toxins resulting from micro-organisms. Accordingly it seems likely that the immediate causes of cancers are multiple".

Fordyce has drawn practically the same conclusion: "A study of skin cancers suggests to the observer, if it does not demonstrate abso-

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lutely, that no one agent is concerned in the malignant proliferation of epithelial tumors and that cutaneous carcinomata have a multiple etiology".

The experience of the writer coincides with the deductions drawn by the authorities just mentioned. Cancer of the skin does not arise from the normal integument but one that is pathologic.

Engman states that the clinical factors which predispose the skin to cancer are (1) senility; (2) actinism; (3) chemical trauma; (4) mechanical trauma, and (5) chronic inflammatory disease.

Numerous derangements of the skin predispose to a malignant change. Hazen gives the list of precancerous dermatoses as follows: Pigmented moles; seborrheic warts; simple keratosis; arsenical keratosis; keratosis follicularis; cutaneous horn; cancer of paraffin workers; xeroderma pigmentosum; sailor's skin; farmers cancer; x-ray dermatitis; Paget's disease; Marjolin's ulcer; lupus vulgaris; leg ulcers; lupus erythematosus; blastomycosis; syphilis; inflammatory dermatoses; sinuses; wens; nevi; papillomas.

Volkman in considering the predisposing causes of cancer of the extremities divides the cause into three groups. In the first group were placed those cases developing upon chronically inflamed tissue, as a result of ulcers, scars, fistulae, osteomyelitis, lupus, etc. The second group comprises cases developing upon warts or moles, either congenital or acquired in later years. The third group included cases arising in apparently normal skin.

Von Brunn, using the Volkman classification, in a series of 321 cases, found that 227 could be placed in the first group, 46 in the second, and 48 in the third.

New growths of the skin, congenital or acquired, after a longer or shorter duration as benign affections, may become cancerous; warts and the pigmented naevi showing the greatest tendency to such a change. Volkman collected 223 cases of carcinoma of the extremities, 23 of these, or a trifle more than 10 per cent had their origin in congenital or acquired warts. Pigmented epithelioma originating in the pigmented naevus is among the most malignant of the new growths.

Certain forms of keratosis are apt to be followed by cancer of the skin. These keratoses are such as are common after middle age—cutaneous horns and the brownish or black patches seen so frequently on the faces and on the back of the hands in the aged. As is well known, patches of senile keratosis are very often the forerunners of carcinoma.

Senile keratosis, or so-called "old age skin" is of such frequent occurrence that all physicians

should be familiar with the condition. Small yellowish, reddish or brownish areas develop on the exposed portions of the skin—the face, neck and backs of the hands. These areas are spoken of popularly by the laity as "liver spots". These discolorations become larger and the surface becomes roughened. The scale is first greasy yellow, then brownish in color. The scale becomes more elevated, rougher, dark in color and warty. In a considerable number of instances the warty covering tends to break down, ulceration occurs and cancer supervenes.

According to Harris, although these keratotic lesions are much more common in the aged, they occur often as early as the second decade. The one factor which seems to play an important role is light. Bellini examined 100 old people from the country and found that 42 per cent had these lesions compared to 13 per cent in the old persons in town. Dubreuilh found in 162 cases of senile keratosis 101 were habitually exposed to sun and wind, while sixty-one had a sedentary occupation.

Arsenical Keratosis—As long ago as 1851, Romberg described an affection of the palms and soles characterized by epidermic desquamation, due to the internal administration of arsenic. Erasmus Wilson in 1873 mentioned that in addition to this desquamation, thickening of the epidermis of the palms and soles and small "corns" may result from the ingestion of this drug. Sir Jonathan Hutchinson first pointed out the relationship between arsenic administration and the subsequent development of epithelioma on keratoses.

Wile up to 1912 found fifteen cases of epithelioma following the internal administration of arsenic and four additional cases in which this drug had presumably been given. Three other cases were recorded by Geyer as occurring among the inhabitants of Reichenstein (Germany). These individuals lived near the arsenic mines, imbibing this drug through the drinking water.

Harris found thirty-one cases of arsenical cancer reported in the literature up to 1918. In one-half of these cases there were multiple lesions. The upper extremities were affected in two-thirds of the cases, the lower in one-quarter. In only one case was the face affected. The growth is always of the spinocelled type.

Wile concludes that the occurrence of epithelioma, following the use of arsenic is in all probability the result of several factors.

A. The chemical action of arsenic acting as a protoplasmic irritant leading to the production of tissue especially liable to malignant degeneration.

B. The irritation and trauma to which precancerous lesions (keratoses) are constantly subjected.

C. The occurrence in most of the subjects of arsenical cancer, of a pre-existing chronic disorder and abnormality of the epithelial covering.

Cancer of Tar and Paraffin Workers—Some years ago Volkmann called attention to a peculiar inflammation of the skin occurring in workers in tar and paraffin, which showed a special predisposition to be followed by carcinoma. This paraffin dermatitis is characterized by red, oozing patches resembling an eczema, by lesions of the type seen in psoriasis, and follicular inflammation resembling acne. The skin tends to become dry and fissured, the mouths of the sebaceous gland-ducts are widely dilated and filled with blackish masses and wart-like growths develop which may become malignant. Certain individuals show a marked susceptibility to the outbreak while others are apparently immune. Schamberg has recorded several instances and reviews the literature up to 1910. B. F. Davis thinks the cause is probably a chemical irritant.

Percival Pott, described in 1775 a form of cancer (chimney-sweep's cancer) which followed a dermatitis of the scrotum due to the irritation of soot, which was almost identical with the paraffin dermatitis of Volkmann.

Rayer refers to a similar affection occurring upon the scrotum in smelters of arsenic ores.

Sachs reported a remarkable occurrence of warts and warty eczema on the hands of those working in aniline dyes. His experimental investigations with animals (rabbits) confirmed the property of these dyes to induce granulation and epithelioma-like excrescences, which may undergo degeneration.

Cancer of Sailors and Farmers—Individuals who are much exposed to weather and sun tend to show certain changes in the skin. Seafaring men, farmers, gardeners, etc., are prone to show the condition. The salt of the sea, wind, such climatic condition on land as low relative humidity of the atmosphere (dryness), and an extreme amount of sunlight are causal.

A diffuse cyanotic redness or deep bronzing of the skin develops, followed by pigmented spots (freckles) and occasionally some loss of pigment between these hyperpigmented areas. Telangiectases develop, the skin becomes dry, hard and wart-like lesions appear. The condition may last for years but there is a distinct tendency for epithelioma to develop.

Hyde has thoroughly considered this type of outbreaks and emphasized how frequently rodent

ulcers (epithelioma) develop upon these warty lesions.

Lawrence recorded the frequency of rodent ulcers developing in "farmers skin" in Australia. Out of 6,000 consecutive cases in his clinic 1.8 per cent, or 108 cases, showed this condition.

Lupus Carcinoma—Carcinoma developing in lupus vulgaris is an uncommon occurrence. Sequeira states that it occurs in 2 per cent of lupus cases. In 964 cases of this disease in the London Hospital he found 2.87 per cent were complicated by carcinoma. Bargues reported its occurrence in 2 per cent. Ashihara collected 125 from the literature and later Silverstein was able to collect 116 additional cases.

Carcinoma developed in lupus cases after the tuberculous invasion had lasted over twenty years in Sequeira cases; the average was thirty years in those collected by Ashihara; while Silverstein reported an average of twenty-nine years.

Desbonnets, in a monograph upon lupus and epithelioma, has collected ninety cases of lupus, reported by thirty-seven observers, in which epithelioma occurred.

There has been a great deal of discussion as to whether the carcinoma originates in lupus or in scar tissue. Kembachief and Bidault consider that it only develops in scar tissue. Eckerman, combined the statistics of several writers, and concluded that in 70 per cent of the cases the carcinoma started in lupus tissue. In Silverstein's series of 111 cases there were eighteen in which multiple lesions had become malignant.

Mendes da Costa, Bargues, Walker and others believed the use of the roentgen ray in the treatment of lupus favors the development of carcinoma. Spiegler says that the number of cases has increased since the introduction of the roentgen rays. Coenen states that roentgen rayed lupus cases represent more than one-half of the cases of roentgen ray carcinoma.

There are probably several factors which operate to cause the development of carcinoma in lupus vulgaris. They are chronic ulceration, old age, roentgen rays and light rays.

Other forms of cutaneous tuberculosis, such as the warty type (tuberculosis cutis verrucosa) may terminate in epithelioma. Hartzell has reported such an instance.

The development of cancer in erythematous lupus is far rarer than in lupus vulgaris. Harris referred to five writers who had reported such instances.

The ulcerating lesions of tertiary syphilis, in rare instances, became the seat of cancer. Lang

and Doutrelepon have both reported cases of this character.

Harris and also Bloodgood have reported instances in which cancer has supervened in cases of blastomycosis.

Chronic leg ulcer serves as the starting point for carcinoma of the lower extremities in a very considerable proportion of cases. Volkmann found that in cancer of the lower extremities, more than 10 per cent of 223 cases began as a leg ulcer.

Roentgen Ray Cancer—This condition was observed much more frequently in the early days of roentgen ray therapy, before the need of protecting the operator and the patient was fully realized. The backs of the hands were most frequently involved by the condition due to the actinic rays of the roentgen tube.

Freckle-like spots develop and superficial telangiectases, the skin becomes dry, rough, and loses its secretion, and the hairs fall out. Small horny growths develop on the pigmented areas, ulcerations and finally epitheliomata tend to develop.

Cicatrix Carcinoma—Marjolin first called attention to the occurrence of carcinoma in scar tissue. According to Heidingsfeld, the French authors have described under the term "carcinoma epitheliale cicatrisans," a form of epithelioma that takes its origin from preexisting scar tissue. Epithelioma with derivation from scar tissue is not an infrequent clinical occurrence.

Strictly interpreted this type of cancer, embraced those forms which spring essentially from old healed-out scar-tissue, clinically dissociated from the process (burn, injury, syphilis, tuberculosis, etc.) which originally produced it. The cicatrization must represent a past process, no longer in a state of active formation.

It would embrace the chronic resistant, indolent ulcerations which slowly enlarge in circumference and increase in depth, presenting glistening indurated everted edges, which spring from long standing and extensively cicatrized areas.

Carcinoma epitheliale cicatrisans develops in its most typical form from the thoroughly healed out cicatrices of old extensive burns.

This variety of epithelioma arises from chronic cicatrizing dermatoses (lupus, lupus erythematosus, syphilis, leukoplakia, etc.), as well as deep extensive scars and atrophies from new growths, trauma, and the roentgen-ray.

The predominating histologic type of skin cancer on scar tissue is a spinous-cell epithelioma.

According to Maxwell, in the Vale of Cashmere epithelioma is endemic, the number of cases in one year at the Mission Dispensary being 1.24

per cent of all diseases treated. Of fifty-four cases twenty-seven were upon the abdominal wall, and fifteen upon the thigh, unusual situations for this disease. The great prevalence of the malady, and its unusual situation are attributed to the frequency of burns in the regions most affected. The natives are in the habit of carrying braziers filled with burning charcoal beneath their clothes, in contact with the skin of the abdomen, and burns are frequent. The cicatrices from these often become the starting point of epithelioma.

Bloodgood states that out of forty cases of cutaneous sarcoma, thirty-two originated from distinct lesions, usually the scars of burns.

Hartzell makes the statement: "As to the influence of long-continued irritation, I am only in doubt as to whether it should be placed among the predisposing or directly exciting causes of carcinoma; I have no doubt that in many cases it is directly or indirectly concerned in the production of the disease". A familiar example of this mode of origin is the so-called pipe-smoker's cancer of the lip resulting from the continued irritation caused by the stem of the pipe. Hansemann relates a very remarkable and instructive instance of this kind. A man who was accustomed to carry his pipe on the right side of the mouth developed an epithelioma in that situation. This was excised, and the patient then carried his pipe upon the left side. After a time a new carcinomatous lesion appeared upon the left side followed by glandular metastasis. This could hardly have been the result of mere coincidence.

Lowenthal has collected 800 cases of malignant tumor, including 119 cases of cancer of the skin and mucous membranes in which an injury preceded the appearance of the neoplasm.

While a single traumatism may be followed by a cancer, such a result is at least infrequent. Wurtz found among 174 squamous cell epitheliomas only 8 that arose after single traumatism.

The source of epithelial tumors are as follows: (1) the various layers of the epidermis; (2) the hair follicles; (3) the sebaceous glands; (4) the sweat glands; (5) the sweat ducts, and (6) congenitally misplaced epithelial structures or cells.

The writer thoroughly agrees with Hazen's description of the microscopic appearance of the skin which signifies a malignant development. "The criterion of malignancy is the breaking through of the basal membrane by the epithelial cells. This basal membrane normally forms the limit of the epithelial cells, thus separating them from the fibrous tissue of the corium. Invasion, once the corium membrane is ruptured, may take place in one of several ways. The cancer cells may invade practically en masse, in more or less

solid alveoli, in long alveoli, in branched projections, singly or in small groups."

Atypical mitotic figures are a marked characteristic of cancer cells. Degeneration of these cells, most frequently of the hyaline variety is typical.

Bowen in his paper on "precancerous dermatoses", states that "all of these conditions have in common a slowly increasing epithelial hypertrophy characterized by hyperkeratosis (except in the case of Paget's disease), well marked as a rule and showing itself as one of the earliest clinical manifestations; by a pronounced proliferation of the rete Malpighii, accompanied by karyokinetic figures; and by a vacuolization and degenerative changes in the epithelial cells that are more or less characteristic. Connective tissue changes are apparently present in all, but except in the case of x-ray dermatitis, this feature has not been so prominently mentioned".

There has been a general trend, in recent years, to divide these various epithelial growths into the prickle-cell and basal-cell types of epithelioma. The former arising from the prickle-cell layer, just above the basal cells of the epidermis; and the latter taking its origin from the basal cell layer, or from similar cells of the hair follicle.

Epithelioma developing on the face usually have their origin in the basal cells of the epidermis while those developing elsewhere on the skin surface and the mucous membranes take their origin from the prickle cell layer.

The former do not tend to cause metastasis, the reverse is true of the latter.

The following deductions may be drawn:

1. Lesions on the skin, particularly of the pigmented or warty type should be removed.
2. Recurring traumata should be avoided.
3. Arsenic should not be given over too long a period or in excessive dosage.
4. Systematic examinations of and greater cleanliness should be employed by individuals in certain trades.
5. The excessive exposure to sunlight should be avoided or the individual properly protected.
6. Care should be exercised against the actinic rays from the roentgen tube.
7. Differentiation should be made between the basal cell and prickle cell type of cancer, as the former does not metastasize while the reverse is true of the latter.

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THE SIGNIFICANCE OF DISCHARGES FROM THE ANUS

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The functions of the colon, sigmoid and rectum are to be inquired into. The character, amount and consistency of the feces is important and also its color, gray, brown or black. The regularity and frequency of the evacuation and whether constipated or diarrheal, or if there is straining at stool.

The shape of the stools has been thought to be of diagnostic value and the narrow, flattened masses have been considered pathognomonic of stricture. This may most assuredly be a fact if the stricture is located at the anal orifice and this condition is frequently found when the sphincter muscle is spasmodically contracted. But narrowing of the lumen of the rectum will not cause a ribbon-shaped stool unless the sphincters are completely paralyzed.

The odor of the evacuation is sometimes of value, notably in carcinoma, amebic dysentery, peri anal warts and recently opened perirectal abscess. All of these odors can be but poorly described but once recognized are not easily forgotten.

Hemorrhage—The discharge from the anus of blood, mucus or pus is significant of a great many conditions and demands our careful consideration. Bleeding is so commonly associated with hemorrhoids that one is inclined to take too much for granted and neglect to make a thorough investigation. Inquiry must be made as to the amount, color of the discharge, and time at which it occurs, also whether it is mixed with the feces or only streaks the surface of the mass.

The amount of blood which the patient claims is lost is not always to be taken at his own estimate for only few individuals are sufficiently careful observers to be able to state accurately. As a rule more is thought to have been lost than really is. It is often the reddening in the lavatory bowl by a slight bleeding which gives the idea that there has been a profuse hemorrhage.

The appearance of the patient is often an index of the severity of the hemorrhage by the degree of anemia produced.

Bleeding from internal hemorrhoids at times may be constant and even very profuse, es-

pecially when they are chronically prolapsed. The same may be said of varicosities situated high up in the rectum, when they rupture. Both quite frequently cause a severe anemia, the reason for which often remains unsuspected until a proctoscopic examination discloses the trouble.

Bright red blood usually comes from somewhere fairly low down in the rectum, or from the anal canal. When the bloody discharge is dark in color, contains clots, or is tarry in appearance with a characteristically foul odor, or is incorporated with the digestive residue it generally has come from a lesion higher up in the bowel.

Nearly all rectal disturbances cause some hemorrhage, and the fact that an external abnormality such as fissure, exists, does not preclude disease higher up within the intestines, even cancer or ulcer being a possible contributing factor. Let us consider first those cases where bleeding is the only symptom. Rectal hemorrhage may be due to (1) ulceration of local diseases or (2) traumatism either immediate, following accidental injury, or secondary, after an operation.

There is rarely any bleeding from external thrombotic hemorrhoids, but on several occasions I have seen cases where the stretched skin had broken, the clot had been only partially extruded, keeping the vein open, and thus allowing a small but steady stream to trickle out on the clothing.

When children bleed at the rectum, parents seem to bring them quicker to their physician than they do for any other rectal symptom, except that of protrusion. In children bleeding is rarely due to hemorrhoids. It is far more apt to come from a solitary, polypoid, pedunculated adenoma, which bleeds easily and is usually attached to the posterior wall of the lower end of the rectum, just above the internal anal sphincter.

In small children, especially in those badly constipated, when a fissure exists, a drop or two of blood may be squeezed out at the time of defecation. When there are multiple fissures, early evidence of hereditary lues, the bleeding is freer, not only during but also between the times of bowel movement.

In both adults and children quite severe hemorrhages may take place from multiple polypi of the bowel wall, and from the hemorrhagic and the amebic forms of colitis.

Considerable oozing of blood occurs when a chronically prolapsed rectum has been long traumatized by friction against the clothing.

Fine linear cracks in the tissues immediately surrounding the anal orifice and simple fissure do not bleed as a rule, unless scraped by hardened feces at defecation. Then they may bleed

sufficiently to well stain the detergent toilet paper, and so arouse the patient's fears.

Other causes for rectal bleeding may be injuries to the anal or rectal mucosa, the result of the passage of excessively hard fecal masses, or of sharp, irregularly shaped foreign bodies, improperly directed or roughly inserted syringe tips, rectal thermometers and examining instruments.

Persistent bleeding after each bowel movement or that occurring independent of the act of defecation indicates that the source is within the rectum and may be:

1. Erosion or ulceration on the rectal wall, such as an ulcerated hemorrhoid, rectal ulcer (tuberculous, syphilitic, dysenteric, amebic cancerous or traumatic).

2. Laceration of the rectal mucosa from injury by a foreign body, or a large hard fecal mass.

Blood occurring after defecation or streaking the stool indicates ulceration within the anus or rectum. The hemorrhage of anal ulcer (fissure) is small in amount, but as a rule, occurs with every defecation. The bleeding occasioned by the traumatism of the ulcerated internal opening of a fistula is small in amount and irregular in occurrence. In both of these conditions the bleeding may be only sufficient to stain the toilet paper. The contraction of the sphincter muscle closes the blood-vessels and prevents much loss of blood.

The bleeding occasioned by the escaping of the feces pass the obstruction usually is small in amount and streaks the stools with sometimes a little loss of free blood after the evacuation. This is regardless of the cause of the obstruction, which may be due to catarrhal disease, tumors of the rectum, or mechanical strictures; but where ulcerating, necrosing masses of tissue are occasionally torn off by the passing mass during defecation, as in cancer, benign tumor or tuberculosis, and a very serious hemorrhage may occur. Certain fevers like malaria, yellow fever and typhoid fever, are often complicated with rectal hemorrhage, marked changes in the blood, like that which occurs in anemia, purpura, scorbutus, etc., may produce it, and lastly, we often meet it in local diseases of the rectum, such as proctitis, polypus, prolapsus and ulceration, amebic dysentery being included in the last class mentioned.

During the course of typhoid fever the passage of mucus streaked with blood is sometimes a warning signal of impending hemorrhage and perforation.

In some instances, a considerable amount of blood may be lost, and be expelled during prolonged dripping or by gushes forcibly ejected.

Such a hemorrhage suggests rupture of a good sized vessel and must be attended to immediately. For treatment the patient is placed on the table, a speculum inserted and the colon thoroughly flushed out with a hot saline solution. All clots are to be removed and the bleeding wound, when found, is packed. A rectal plug is made of three pieces of gauze, four inches wide and six inches long, tied into a bundle, at one end, with a long tape. This taped end of the gauze is carried, by means of a long dressing forceps, through the speculum to a point in the rectum above the wound and the remainder of the gauze is then carefully packed in, thus filling the ampulla; the speculum then is withdrawn. Two fingers are placed over the anus and the tape passing between them is drawn taut and tied to the roll of gauze outside the anus. This packing is allowed to remain for twenty-four hours, which usually is sufficient for traumatic cases and also for tentative treatment in the others.

Blood forcibly ejected, red in color and occurring with the bowel movements indicates an ulcerated hemorrhoid.

Blood, dripping, bright in color, occurring with the bowel movements indicates a venous hemorrhoid or an ulcer.

Blood occurring in small amount on the toilet paper after the bowel movement indicates an ulcer or a fistula.

Blood, dark in color and occurring mixed with the feces suggests an ulcer or cancer high up.

Blood with constipation, especially if the symptoms are relieved after the hemorrhage, indicates acute intussusception.

Bleeding associated with the discharge of pus and mucus indicates obstruction due to cancer, catarrhal disease, stricture or mechanical obstruction due to pelvic adhesions or pelvic tumors which obstruct the lumen of the bowel.

Free hemorrhage suggests ruptured varicose vein, injury, foreign body in the rectum or intussusception.

The important fact is, that blood appearing on the stool or voided without relation to the fecal evacuation is pathological and is an imperative demand for a thorough rectal examination. The amount or character of the blood lost are no indications of the gravity of the situation; and, although a sharp severe hemorrhage may demand immediate treatment, the lesser show of blood may be of more serious import and demand careful investigation.

Mucus is of course always found on the lining wall of the bowel, but when found in abnormal quantity as a result of over activity of the mucus secreting glands due to the irritation or inflammation,

it may amount to whole evacuations of clear mucus without fecal particles. Such discharge is evidence of proctitis or proctocolitis and to a less degree of internal hemorrhoids, or thread worms.

The frequent use of hot enemata will often cause a mucous discharge as will also chronic fecal stasis, fecal impaction, a foreign body or a polyp, especially one with a long pedicle.

In the presence of villous papilloma there is often a discharge of large quantities of colorless, viscid mucus or sometimes it is mixed with blood.

Whatever the composition of the discharge it is most abundant in the morning, producing a spurious diarrhea as a result of the accumulation which occurs over night while the patient is at rest. The patient may have twenty or thirty evacuations in the morning.

Pus when voided unmixed with feces usually means the rupture of an abscess into the bowel. It is generally mixed with blood and mucus. When the pus is of lesser amount and more intimately mixed with mucus or pus it is almost unmistakably from an ulcer which may be benign and simple, or may be stricture, or cancer of the rectum.

In that form of colitis where there is infection and severe ulceration of the bowel mucosa, there is sometimes so much suppuration that it is really remarkable what quantities are discharged.

SHOULDER AND HIP FRACTURES*

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Shoulder fractures, common, regarded with a dread hardly justified.

Save for a few they do surprisingly well if only treated with proper optimism and proper basic technique.

It is just in the smashed shoulder of elderly ladies, so often seen, that results are so good.

And the key to the matter is that anatomic reposition in the shoulder is very unimportant; horrid heresy, but true.

So long as the greater tuberosity will go up under the acromion the shape of the upper humerus end matters little.

Union occurs, always, I think, and very promptly.

A fortnight sees a working union already established.

I can not recall a case of non-union,—outside the Warren Museum.

Suppose we have an impacted fracture of the

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anatomic neck, one of the sort so often seen in which the x-ray shows curious distortion of general outline with vague lines of fracture.

As a rule this type occurs in the elderly.

By no means do we break this up or worry about the symmetry of the result:

Skillfully mobilized, such a condition permits all the motion the old lady will ever use, the risk is of stiffening only, and of stiffening due to immobilization.

In these cases the form of fixation is immaterial, the period not over a week, the rest is up to the P. T. aide.

Fractures of the surgical neck are usually loose, must be reduced.

Under ether, the best practicable reposition is to be sought. Usually this means reduction of the shaft fragment from the point forward and inward to which the pectoral has dragged it.

Perfect reductions are not reached—nor necessary, and open reduction in the average elderly patient, not to be thought of.

We have two ways of handling to be considered, the Jones-Murray splint for traction in bed at a right angle—or the various forms of aviation splint.

The army aviation splint is almost as poor as the old time plaster spica.

Cleary's is better, but best of all is the half forgotten Monks' triangle which I nearly always use for the ambulatory cases.

The essential is an abduction, with traction if need be, at such an angle that we are sure the greater tuberosity will clear the acromion and will stay clear for our initial ten days.

If there is a complicating fracture of the greater tuberosity this also is taken care of by forced abduction.

If there is only the greater tuberosity broken clear, abduction, and in this case without traction, is all we need.

In any case ten days does the trick.

Then the arm may come down into a sling, and proper mobilization, including a daily return under handling to the abduction position secured at the start, ensures our result.

Often I bring the arm down in two stages, using the Osgood Penhallow splint for the intermediate stage.

Just now I am finishing with a case, loose fracture of the surgical neck with separation of the greater tuberosity. It is two months now, ten days after ether reduction were spent in a necessarily uncomfortable abduction, Monks' triangle, and after that mobilization.

She can get to her back hair now, though she is a plump little old lady, and the work since the

tenth day has been done nearly all by my masseuse.

A second case, loose anatomic neck only, reduced and held in abduction splint, needed later support in an adhesive plaster sling to control a downward subluxation due to the drag of the weight of the arm when it came down, (a not uncommon complication), slung so as to take care of this without limitation of motion, this case also went into the hands of the P. T. aide. More recent, she shows less motion as yet, but will presently reach the stage of full usefulness.

It is not of importance whether one attains a perfect position in these cases but absolutely essential that one avoid a stiffening that will not let the patient reach her back hair or the placket of her skirt behind.

These are the cases I see most often, and their treatment in the last few years has become a matter of successful office routine.

In the younger cases one must regard anatomic results more. The same abduction splints are called for for a while but one is dealing with conditions of muscle spasm not met with in the elderly.

Many may be handled with the routine above dictated, but not a few are irreducible or intractable, and not a few call for open reduction.

Particularly in adolescents with breaks just below the epiphysis or with epiphyseal separation, one fails of satisfactory reduction.

In these cases the bugbear of stiffening from fixation is not much to be considered, and it is fair to call for better anatomic results.

Hence in this class the proportion calling for open operation is rather large.

Often on operation one finds the biceps tendon as the obstacle.

Reduced, these cases go up in abduction,* are mobilized at about three weeks and do well.

Rarely one meets fracture luxations.

Rarely with good luck one juggles these into place.

Commonly, one operates, and secures reduction; uncommonly excision of a loose rolling head is the best thing to do, with an end-result by no means perfect but apt to be curiously serviceable.

It is odd to note how rarely the adhesions of the subacromial bursa, which must constantly occur, do affect our results under this routine; not less odd, perhaps, but less happy, to note the proportion of hopeless stiffening especially in older patients that results from even good anatomic reduction under a routine that lays less stress on early mobilization.

*Rarely owing to heavy pectoral spasm adduction to the side is called for—in a double sling with axillary pad.

FRACTURES OF THE HIP

Few lesions more troublesome, few in which the literature is more painful.

Here in Des Moines I hesitate a little to speak on hip fracture but I have my return ticket and am going to take a chance.

As I see it the trouble has been that we have talked too much.

The fact is that there are two types, one that does fairly well and accounts for boasted results—the other that doesn't do very well on any basis of treatment.

Hip fractures more than any other break are injuries of the old, who are clumsy as well as brittle.

Not a few cases die—in the first week or not seldom in convalescence. They die of heart or lung or brain complications due to shock or to the confinement which is inevitable in such cases.

They die because they are old and unsound, not because of one or another form of treatment.

In public hospitals the mortality runs with curious constancy from 15-18 per cent—in private practice—with a better "material", a little lower, but still a considerable mortality.

Now as to treatment.

First, I let them alone under pillow support for a few days to get over the initial shock.

Also, to get x-rays and a definite diagnosis.

Also to see if they are going to "blow up" and get a heart dilatation or hypostatic pneumonia or prompt bed sores.

If they are, I'm going to hold my hand a bit, on the ground that I can do no good by early interference and can easily accumulate discredit.

Whatever happens after any surgical interference is debited against the surgeon, of course.

There are many cases of hip fracture that are essentially hopeless and it is simply silly to attempt radical interference in such cases.

After five days, let us say, we are convinced that our old lady is fit to treat with a view to locomotor results.

X-rays have shown us a fracture intra or extracapsular, impacted or not.

If it is extracapsular—intratrochanteric, we are going to get union, whatever we do.

The problem is of avoidance of deformity, and there is no way so satisfactory as traction.

The Phillips-Maxwell-Ruth method of longitudinal and lateral traction is the prettiest scheme.

It has fully justified itself in this class, and all the post-mortem specimens Ruth used to lug around in his bag, which I have examined carefully, seem to me to be cases of this type, adequately treated, with admirable results.

With careless treatment we have horrid coxa vara deformity and serious disability.

In my own practice I used to use the Phillips M. R. method.

The only possible objection to it is that it requires skill and care to avoid interference with circulation and working as I do in a large municipal hospital I find the detail of work by internes and nurses a matter of some worry.

Therefore of late I have substituted traction in abduction with an increase of weights to balance against Dr. Ruth's attention to detail with about the same results. All those cases do well and get early union.

They are stiff at six weeks, solid at eight, walking in twelve, and if one has done a proper job, the resultant disability is no more than a minimum stiffness and sensitiveness.

The other class is "something else."

The break is within the joint, "intracapsular", "subcapital".

The problem is one of union, and that only.

The trouble is that we are dealing with the separation of a head which by the occurrence of the fracture has lost most of its blood supply and of its capacity for bone repair.

Many of the cases fortunately are impacted.

Unfortunately the impaction is often a frail safeguard, and often with the progress of the bone softening, which everywhere precedes repair of bone, the impaction gives way.

I think the frequency of this calamity has not been appreciated.

Personally, I have seen this happen in a number of cases and from investigation of end-results in hospital cases think it decidedly common.

Every bone softens before it begins to unite and in this particular location softening may well result and does result in the loss of an impaction none too firm at best.

Given impaction in tolerable position our problem is to minimize the chance of this disaster.

What we can do is to fix and to minimize the untoward result of muscle spasm.

That means abduction, of course, the position of choice in all hip lesions for the reason first of all that it avoids adduction contracture; second that it minimizes the distorting effect of muscle spasm by bringing the pull more nearly in the line of the broken neck; third that it tightens the ligament. Whitman has very usefully popularized this principle.

Secondly we must invert the limb. Peckham of Providence, Rhode Island, deserves a credit rarely given for stressing this point.

Anyone who has operated on hips can testify

to the definite fixation produced by such sharp inward rotation.

The mechanism is, of course, that of ligament tension.

With impaction, then, abduct and invert, to the limit obtainable without breaking up the impaction.

Fix for three months, preferably in plaster. (I use a double spica stopping at the knee on the good side.)

Allow motion in bed through the fourth month.

Crutches at four months with increasing weight on the foot.

Full weight at six months.

Recovery of full use needs a year, and under any routine we know there are going to be a proportion of failures—of non-unions.

And now as to the unimpacted cases:

They can be reduced, in such instances as allow of general anesthesia, by traction and manipulation.

Whitman says they can be locked in abduction.

I prefer, still, to add the assurance given by my scheme of artificial impaction after reduction.

One can demonstrate easily as I have often done and lately did three days ago, the locking into firm position of a fracture previously loose, so that it does not "flop" into outward rotation or shorten under muscle spasm.

This done, one can do no more than fix in abduction and sharp inversion.

This gives a condition about like that of a primary impaction in favorable position.

After this it is "up to" the patient's repair power.

We can care for the fixation and the subsequent return to use—that is all.

Campbell reports the best results, I think—Whitman seems to have no collection of cases, and mine, while not bad, do not show up as well as Campbell's—a difference due, I fancy, rather to difference in "material" and to hospital conditions than to method.

My private cases have shown admirable results in the main, but here again an occasional case of utter failure to get bony union despite care and a favorable start.

X-rays in these cases, have shown a curiously intense absorption process from the start.

I am at a loss to give any real explanation as to why this process varies so from case to case and have no suggestion, so far, as to any means of influencing the process.

What of late cases?

Two cases, one of mine, one of Dr. Otto Hermann's seen by me in consultation have gotten

solid union and admirable results from reduction and artificial impaction done after two months.

His case had given way under the Whitman routine, was then re-reduced and impacted.

Possibly even later cases may prove amenable to such treatment.

Operative results are not very good, I fear.

Like others, I have had my successes and have not made a very loud noise about my failures.

If one must operate it is a question, I think, not of bone-grafting stunts but between the Brackett operation, the choice in most cases, and excision of the head with shaping of the neck to serve as a new head, with or without the fat flap of a formal Murphy arthroplasty.

The choice rests in the matter of age and time.

The Brackett operation means six months, gives a solid hip with some loss of motion, the arthroplastic excision gives a result usable in half the time, but less stable.

In the many cases not fit for extensive operative procedure one accomplishes much with a supportive belt, and non-union is not necessarily a crippling disability.

To sum up:

Extracapsular fractures can be restored to near normal function.

Intracapsular fractures handled as sketched, give a proportion of perfect results, many serviceable limbs, a proportion irreducible as yet, of failures not all of which are to be restored to useful function by any operative or other means as yet at our command.

OPERATIVE FRACTURES*

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The purpose of this paper is to invite your attention to the importance of the subject of fracture end results from the modern point of view.

The imperfect results that have characterized many of our fracture cases in the past will no longer measure up to the requirements of the present day.

The increased number of cases occurring under the operation of the compensation laws with the attendant numerous inspections and examinations by the financially liable insurance companies will serve to educate the public to expect and require more perfect results, anatomic and functional, in the future than in the past. This will also possibly tend to increase the number of malpractice procedures instituted and thus excite on

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the part of the profession a greater interest in the subject of improving fracture end results.

The professional attention of today appears to be engaged more with the surgery of the abdominal and pelvic organs, the brain and spinal cord, the heart and lungs, tendon transplants, and so forth, than with the common and ever present subject of fractures, a fruitful field for many surgical failures.

During the past eight or ten years the pendulum of professional enthusiasm has apparently swung far out in favor of the early operative treatment of fractures with the promiscuous and indiscriminate use of plates, pegs, grafts, and so forth.

This is attended in many instances by disastrous end results as compared to the results possible to be obtained by the application of a more rational and more conservative means of securing a favorable anatomic and functional end result based on a more careful and exhaustive study of the individual case and its requirements.

The conservative treatment of fractures still offers a very fertile field.

It is not the intention to discuss in this paper the relative merits of all the various operative or non-operative methods of treatment nor the advantages or disadvantages of the various procedures, but is a plea for a greater effort on the part of the profession to individualize, to simplify and to standardize the treatment of their fracture cases.

We should select for open operative treatment only those cases that in our judgment would not secure and maintain satisfactory approximation, proper alignment, and functionally good end results by the older methods.

It is still true that in a majority of fractures of the extremities the well established usual methods of treatment are fully effective but there is a definite group of cases that are exceptions and it is here we have to consider the available modern methods of treatment, namely: suspension by the Balkan frame and Thomas splint, skeletal traction by the Steinmann transfixion pin or modified tong devices, skeletal fixation by Lane plates, Parham-Martin band, silver wire, screws, nails, pins and various direct or indirect operative methods performed under local or general anesthesia.

From outline of Treatment of Fractures, Archives of Surgery, vol. vi, page 174, I quote:

It is generally recognized and accepted that in certain types of fractures it is impossible to obtain satisfactory restitution except by operative methods.

The operative method is recommended to those surgeons who have had special training and experi-

ence, who have the necessary skill and judgment, and who have the hospital facilities and surgical armamentarium with which to do this work properly. In the case of those who do not have such facilities, operation is not advised.

Internal splinting of long bones is usually best made by fixation, with steel plates and screws, having a minimum of foreign material but with maximum strength and ductility. The machine type of screw only should be used. The wood, or so-called carpenter, screws are contraindicated in the cortex of bones.

A scrupulous non-hand contact technic should be carried out with strict attention to detail. The skin should be carefully covered during the operation, and there should be special care and preparation of the skin before operation. Intramedullary fixation by bone graft or splints is contraindicated if any other method is possible. Bone grafting is indicated chiefly in loss of substance and pseudo-arthritis. It is not indicated in the treatment of acute fractures. Every attempt to stimulate osteogenesis should be exerted before attempting to bone graft for delayed union.

Some patients do not have the power of producing osteoblasts and by whatever method of treatment non-union occurs. In this class of patients our interest should be stimulated in the possibilities of the recent research studies of the defective balance of the blood calcium and phosphates as of prognostic import and of cod liver oil as a therapeutic measure in restoring the balance and supplying the essential vitamin D in favoring new bone growth.

Delayed union or non-union is a rather common complication of fractures of both bones of the lower leg especially of the lower third and in the presence of this condition before open operation is instituted one should very carefully consider the advantages of the Delbet Ambulatory splint.

It affords mechanical stimulation to the fragments favoring the production of callus and osteoblasts, by permitting the active use of the limb in a weight bearing position, improves the impaired circulation, prevents further displacement of the fragments and permits active use of the muscles and joints.

Experience has demonstrated that this method of treatment should be used for several months before operation is done, for success has been attained even after this considerable time.

In every case of fracture, particularly about the shoulder, elbow, knee or ankle, when reduction and maintenance cannot be accomplished by manipulation and closed methods of treatment, open operation should be resorted to before new bone has commenced to form.

Experience has proven the truth of Murphy's

dictum that an open operation should preferably be performed from the eighth to the fifteenth day in the adult, by which time the tissues have recuperated and coffer-dammed themselves against infecting organisms if admitted in considerable numbers.

This fortunately affords us a period of a week to ten days for correcting defects in extension or position evidenced by our fluoroscopic or radiologic examination and clinical study of the individual fracture.

Remember that in nearly every fracture case four major elements must be considered, namely: approximation, alignment, function and the pathology of the soft parts.

In the event of failure to any degree of the older methods of treatment our attention is naturally directed to some of the newer methods in our effort to avoid open operative treatment with its attendant special risks and responsibilities. It is here that suspension and skeletal traction will be found to afford a far wider application than it has enjoyed in the past.

It should be remembered that "the inherent value of any apparatus is of less importance than the skin with which it is used". Then, we will be able to turn evident defeat in many cases into victory by the skillful use of the Balkan frame, Thomas splint suspension and skeletal traction with Steinmann pin or modified tong device without open operation.

These methods of extension seem barbaric to some who have not used them but in practice they are much more comfortable to the patient than any other method in which any considerable amount of weight has to be continually applied as the traction is directly on the non-sensitive bone instead of the sensitive skin.

Steinmann, in a monograph in 1912, points out the objections to skeletal traction and their avoidance, as follows:

First: Pain—If the skin is pulled up forcibly when the pin is inserted there will be no skin pain or decubitus.

Second: Infection—The skin should receive careful attention and preparation to avoid sepsis. The pin should not be introduced in a hematoma about the fracture, in the marrow cavity of the bone or a joint cavity, nor in the epiphyseal line.

Skeletal traction is a safe procedure if proper technic is employed, and because of its limited site of attachment is of great value in the presence of extensive abrasions, compound fractures with much destruction of soft parts, in multiple fractures, and where proper alignment is difficult to secure. Extension at the beginning of treatment should provide over pull to lessen the fix-

tion of injured muscles in a shortened condition.

Suspension and traction afford early and frequent mobility to adjacent joints. The benefits of passive motion can be secured from the beginning of the treatment. The apparatus lends itself to easy manipulation in providing the desired positions, and extension. It allows the patient to vary the elevation of the limb to suit his convenience and comfort and affords the maximum amount of freedom in bed. It gives greater facilities for checking the progress results by the radiographs, and there is less interference with the circulation, less edema, less annoyance, pain and discomfort. It permits increased facilities for personal cleanliness, and the nursing care of the patient is rendered much easier.

The advent of the x-ray marks a great aid in the diagnosis and treatment of fractures and at the same time makes our errors and failures more apparent and offers much to those who are anxious to bring suit for malpractice. However, much dependence must be placed on the roentgenograph which should be taken two plane or stereo. Therefore, the treatment of many types of fractures can be carried out properly only when an x-ray apparatus (preferably of bedside type) is available.

The application of these available beneficent principles requires much in the way of patience, persistence, ingenuity and mechanical trend or the services of a good mechanic but the end results afford ample recompense.

I offer a few lantern slides illustrating the use of the Balkan frame, Thomas splint, skeletal traction apparatus and a few cases of open operation.

Discussion

Dr. John C. Rockafellow, Des Moines—I always consider it a privilege to discuss a paper by Dr. James because his papers always show an earnest effort to deal with the subject in an open-minded way. There is at the present time no difference of opinion as to what constitutes an operative fracture. Any fracture that can be reduced and alignment maintained is not an operative fracture, consequently it is not covered under the title of this paper. However, variance from either of these conditions may bring the fracture into the operable class. Two conditions have materially influenced the swinging of the pendulum in the treatment of fractures: First, the fact that an operation on a fracture is not a guarantee that you are going to have a good functional result; second, experience during the war with fractures that were comminuted, complicated, unusually severe, and accompanied with extreme pain, demonstrated that functional results could be secured with the modern extension treatment. Where surgery is to be resorted to, or where the cases do not fall under the head of non-operative fractures, it then be-

comes a matter of surgical judgment as to which cases should and should not be operated on. Also it must be left with the surgeon to select a method in which he is skillful, in which he has confidence, and in which he has had experience. And his experience should not be limited to any one particular method. In fractures there is a tendency for too precipitate action relative to operation. These cases after coming under the care of the surgeon should be studied the same as any other case. They should be x-rayed, but to x-ray them before extension has been applied furnishes nothing as far as an opinion is concerned as to whether the case should be operated or should not be operated. The tendency is for the enthusiastic bloodless surgeon to wait too long before the operation is performed, while the enthusiastic operator operates on many cases in which good end results might have been attained by the use of modern treatment. There is one point in regard to which I disagree with the essayist, and that is as to the use of the medullary peg or bone transplant. I speak now from my own personal experience in what I have to say of the transplant and the medullary graft. In the last few years I have not buried a foreign body in any case of fracture where I could use a medullary peg or a transplant, and I believe that my happiest results have been in the use of the medullary peg or transplant in the treatment of fracture. These are not adaptable to every case of fracture. It is not the appliance so much as the manner in which it is used. And it is the same with operative procedure; it is not the choosing of the method, but the manner in which that method is used, that determines the end results. However, two facts remain, first, that you do not have to remove a medullary peg or the transplant, second, that you do have to remove a foreign body. When you place the Lane plate on a fractured bone union does not start at the plate, it starts far away and finally reaches the plate. But when a transplant has been inserted union starts at the seat of transplant. This is the best evidence of the osteogenetic properties of the transplant. Frequently one important factor is disregarded, both in operative and non-operative treatment of fractures, and that is the inauguration of systematic massage after your appliance has been removed. This shortens the convalescence, gives a much better final result, and in my fracture cases I have often wondered who deserved more credit—the surgeon, or the masseur who sees the case every day or two and restores function to the extremity in the shortest possible time.

Dr. F. L. Nelson, Ottumwa—There are two or three points I am very anxious to bring out in this discussion, one of which is in regard to the medullary peg. I am sorry Dr. Rockafellow beat me to it. We have had quite an experience with this procedure and I do not see how one could possibly question the results obtained by this means. You put something in there that grows in naturally, remains there, requires no attention afterwards. You take a series of x-ray plates, follow it up after two or three weeks and again after ten to twelve weeks and you find

that growth right there, a continuous thing. I have yet to experience my first disappointment following the placement of a medullary bone graft where we have anything like a reasonable chance to properly apply it. As to the Lane plate, it has been my good fortune to have seen in Bellevue Hospital and observed many of these plates that had been applied during the rush when Lane-plating was so popular a few years ago. We got the whole end results there, we have seen them by the dozen, and they were anything but gratifying. When those plates are left in you will find in the larger percentage of cases that there is always an irritation. Of course the ones that were working good we did not see, but we saw a great many cases in which the result was not good. We must bear in mind that a plate following upon an injury where there has been more or less continuous disturbance, is quite a different proposition from that which involves the passage of a bullet. In regard to the Steinman pins, I have not seen them used out here, but they are used a great deal in the East and are liked very much. They are a very good thing. Another question is that pertaining to the time of operation. Too many operations are done too soon. You all know what it means to go into a tissue that has been contused. That tissue is not able to resist infection, and I believe that most of infections following operative work are due to going in before the tissue has had a chance to readjust itself, resist deleterious products and immunize itself, so to speak, from the infection. As to the autogenous grafts or medullary pegs, I believe these are destined to be widely adopted in fracture cases where they can be used. I have seen them employed with no after-trouble, I have seen nails used without any question of trouble afterwards. But Lane plates seem to be a bigger failure than any other so far as end results are concerned.

Dr. W. W. Bowen, Fort Dodge—In speaking about the medullary graft the discussers have failed to make it clear whether they were referring to the auto-graft or to a manufactured apparatus. If the latter, you had best not use it. Then again, the average man had better not try to use the auto-graft. The technic that must be employed in its application is a highly refined one. There are only a few men that can do it. It is far simpler to put on a Lane plate than an autogenous graft or a medullary peg. And even when you get a fit you have more trouble from that graft than from a Lane plate, because in applying, for instance, the Albee graft, you have already taken out the bone, and you get more destruction by this method than by plating. The paper is highly conservative and that is what we want. We should never resort to any kind of foreign body or even autogenous graft if possible to do any other way. One point the essayist touched on was to tell us where to procure the silver wire. I can tell you a better place: Go to the hardware store and get a spool of aluminum wire. It is more pliable, more ductile, and it does not break. It is much better for the purpose than silverware and a 10-cent spool will last a lifetime.

Dr. S. A. Spilman, Ottumwa—I regard this as one of the most important papers we have had. Of course we all differ in some points from the essayist. I was glad to hear the essayist speak of a silver wire that will not break, for I have had some experience with the kind that does break. As to the patella, I think that in this case the best results I have had were obtained by the use of catgut. Simply bring the fragments together by passing the catgut around the fragments and sewing together the ends of the ligament. Then at the proper time there should be massage of the part. I believe it is very important to use the right kind of massage, given by a masseur. One of the best results I have seen was in Chicago, a case of Colles' fracture without any splints and treated by a masseur. In another case, that of fracture of the head of the femur, we used a bone graft. We did not rush into it too soon, but the fragments would not unite, and finally by placing the bone graft in proper position we secured a fine result. I have had several other cases in which the use of the bone graft resulted in the best kind of results. It is very true that much depends on the way these things are used. It is a big mistake to go in too early, it is a big mistake to go in too late. I believe that the use of the Steinman pin and other appliances for getting correct apposition is very important. In a case of fracture in the shoulder-joint we obtained a good result by use of the airplane splint. We could not get the fragments in apposition until we raised the arm up and held it there by means of the airplane splint.

Dr. Charles E. Ruth, Des Moines—I consider this one of the best papers on this subject we have had presented before the Society in many years. The matter of the use of different mechanical appliances in fractures is largely a personal equation after all. The Lane plates that Lane put on nobody has ever had to take off. Ninety-eight per cent of the plates that Americans put in when they undertook to imitate Lane had to come off. The earliest ones that I used had to come off, the later ones rarely because they made no trouble. And yet the statement is true, as Dr. Rockafellow has said, that the Lane plate does not aid in the laying down of new bone. It simply is useful in obtaining good fixation. If plates are properly applied and not too close to the site of fracture, that is, not too short so that the screws come too near the line of fracture, they will seldom cause any trouble. In regard to the reduction of fractures, of late there apparently has been a very strong and growing tendency to leave fractures alone for four, five or six days and then undertake to reduce them, when coagulation has become firm and there is already a tendency to organization of a coagulum that makes the reduction of the fracture an impossibility except it be opened up and the coagulum scraped out. I was very glad to hear what the Doctor said about the use of nails or screws in fractures about the joints. In a great many cases they can be used without invading the articular surface at all and are worn with comfort and make no trouble for years afterwards, as I have experienced.

A word in regard to the use of the Balkan frame. I do not care what kind of a frame a man uses, whether he has upright posts and two or three bars or not, the question that is involved is whether he has that intelligence to properly adjust the frame to the particular patient and to the conditions present. One of the prints the Doctor displayed on the screen I would like to have put up differently before he shows it again, because the sandbags were shown hanging over the injured limb, which should not have been. No person should adjust the weight in any of these Balkan frames for traction so that, if it falls, it does not fall outside of the bed. This easily can be arranged by means of an extra pulley. In regard to direct traction on bones, there is no question but that it is a very valuable addition to our methods, but if the patient is going to be comfortable it must be used with consideration to the nerve supply as well as to muscular force that is to be overcome and in the proper direction. We often fail in the application of mechanical principles for the purpose of overcoming the displacing influences of muscular action and weight. A number of fractures we have not been treating properly, and in which better results should be obtained. But we cannot secure these unless we utilize measures vastly different from those that have been employed in the past. I refer to the fractures of the os calcis and astragalus with crushing injuries that are so very disabling if not properly treated, this often meaning to the individual a lifetime of disability and a vast amount of pain for eighteen months to two or three years. If immediately after fracture has occurred traction is put upon the os calcis by passing a skewer in above the os calcis and behind the tendo Achillis, traction can be made so the bones may be remolded by a block padded with felt on the one side and a mallet striking over felt on the other, and by use of the hands and heavy traction on the skewer the bones can be re-formed so that the wedge of these crushed bones which look as though they were joined solidly is corrected, then the extremities of the malleoli are unlocked and free lateral movement is again secured, which will be lost entirely in these injuries if we do not follow some such plan. Then after the adjustment has been made a skewer can be put through the os calcis or caliper traction can be made and kept up a couple of weeks. A cast should be applied when sufficient fixation has taken place so that there is no longer a marked tendency to deformity, because the muscles have been stretched long enough so that they have lost their vigor, they have given up the fight—at this time a cast will keep the limb in position. In the past Colles' fractures have not been treated properly or well. As most of you know, often the results have been a disgrace. In fracture of the radius there is not only a dislocation in the fall upon the outstretched hand, which means a solution of continuity, but also invariably a rotation of the radius around the lower end of the ulna, backward. I notice that Cotton in producing a reduction in these cases not only makes extension, but forcible pronation is made, and the limb is

dressed, in complete pronation and rotation inward of the hand, dressed and fixed in plaster in that position in order to prevent backward displacement and rotation of the radius around the lower end of the ulna.

Dr. James—I wish to thank the Society for the reception of my paper. I feel that I haven't anything to add. The criticism that has been made no doubt is merely in point of view. One time I, too, was an enthusiastic advocate of bone transplants, but when I really got into a careful study of the condition, approaching it by clinical experience, I became impressed with the fact that it was almost impossible to place a bone transplant without interfering with the integrity of the parts to such an extent that the procedure was not merited and when I was only securing or attempting to secure fixation for a limited time in a certain position until such time as nature, supplemented by the plaster cast or other external device, would insure the repair of that fracture in situ. I felt that I was disturbing the structures entirely too much in supplying something that nature does not need to have supplied. Nature provides her own repair, so why use a transplant if a simple procedure as compared with the transplant placement will suffice?

END RESULTS IN FOREARM FRACTURES*

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Numerous articles in the past few years have called attention to the need for better results in our treatment of fractures. The most common of these, for various reasons, are those of the forearm, and on account of the complicated anatomy and mechanics of the part, the treatment is more difficult than that of any other fracture, and the common results correspondingly poor.

The methods of various surgeons have been characterized by a singular lack of agreement on fundamentals, as well as details. This paper is simply a report of end results, as viewed in x-ray plates and clinical examination of patients after discharge, with a view to helping to standardize our methods of caring for these distressing injuries.

The forearm connects the hand with the arm, the ulna being an extension downward of the arm bound by a complicated mass of muscles and ligaments to the radius, which is the upward extension of the hand. The elbow joint is formed mostly by the enlarged end of the ulna and the wrist mostly by the extremity of the radius, and injuries at these points are most apt to involve the bone which forms the greater support.

As one of the primary uses of the arms is protection to the body, they are most likely to be injured by external violence. Traumatic force exerted against the hand is transmitted to the forearm, where fractures are most frequent.

The distal portion is less protected by muscles, and the ulna being small, hyperextension or flexion is exerted directly upon the head of the radius, causing Colle's and "Ford" fractures. Direct force against the forearm produces fractures of the shafts, and fractures near the elbow are the result of direct violence or force transmitted directly in the line of the axes of the radius and ulna.

Force acting at an angle with the axes of a long bone produces compression at the point of application, and if this is severe enough, absolute disintegration and loss of tissue, first and most completely here, and secondly on the opposite side, where the tissue is burst or torn apart. This is distinctly shown after reposition, when an actual hiatus at the point of application of force can at times be demonstrated. This has an important bearing on our results, for the position of the bone after reduction must allow this space to be filled with callus, in order to reproduce the normal anatomical outline. This is typically seen in the Colle's fracture. The hyperextension of the wrist produces a compression of the dorsal surface of the radial extremity, with disintegration of bone, followed by tearing loose of the fragment on the ventral side and its displacement upward and backward. If we slip it back, where the fractured surfaces seem to fit, we find that the angle of the distal articular surface of the radius with the axis of the shaft, has been changed materially, and if left in this position, at the best, there will be a permanent limitation of flexion of the wrist. Careful examination of a properly made x-ray plate will demonstrate the deformity, and show us that further reduction is needed. Even if we have replaced the fragment in its normal relations, this actual loss of substance makes it difficult to hold it in place, a statement utterly at variance with the older teachings, that once reduced almost any dressing will do.

Another source of trouble in this fracture is rupture of the radio ulnar ligament, allowing the ulnar head to fall forward, and rotate so that the styloid process projects on the flexor side of the wrist. If not replaced, there is interference with the supination of the arm, as the radius just misses the ulnar notch into which it usually rotates.

Reduction should consist in, first, hyperextension of the wrist to relax the extensor tendons,

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then pushing the radial fragment forward to its position, followed by hyperflexion and adduction to hold the fragment in place and force the ulna back to its proper position of dorsal prominence. In severe cases, this position must be maintained preferably by a dorsal splint with an anterior pad which must never extend below the end of the proximal fragment of the radius. Many cases can be adequately treated with a straight dorsal splint, with a cut-out for the ulnar styloid, but all should be carefully checked by frequent x-ray plates. These should always be taken in the same position, with the tube centered on the extremity of the radius, in order that the angle of its articular surface with the shaft shall not be distorted.

The chauffeur's fracture, produced by a jolt to the palm of the hand, followed by hyperextension and sometimes the added direct blow of the whirling crank upon the arm, occurs about two and one-half inches above the wrist joint. The upper end of the lower fragment is displaced forward by the force of the blow and the pull of the muscles. The radio ulnar ligament is torn, and unless reduction is carefully made, supination will be impaired on account of the shortening of the radius and the separation of its head from the groove of the ulnar in which it rotates.

Fractures of the shaft of single bones are usually easily reduced unless there is interposition of other tissues. Fractures of both bones present serious difficulties, as the muscular contractions produce overriding, and rotation that is very difficult to overcome. Overlapping of the shafts of the bones if there is no disturbance of the line of the axes of the shafts may not be a serious condition. Shortening is of no great consequence if there is little interference with pronation and supination, which are the chief motions of the forearm. This is best preserved by dressing the arm in supination or nearly so, as in that position the ulna and radius are at their maximum distance apart and there is less likelihood of interference by exuberant masses of callus. Success in this position may be attained fairly well if the fracture is below the insertion of the pronator radii teres, but above it the opposing muscles rotate and displace the fragments so that it is probably impossible to attain satisfactory reduction, unless by open operation. Anything else produces almost certainly enormous callus with loss of rotation of the arm. Severe hemorrhage often complicates fractures in this part with swelling and pressure that is very dangerous, and incision for its release is indicated as a preventive of Volkmann's paralysis.

Just as fractures of the radius at the wrist are

attended by dislocation of the ulna so at the elbow, dislocation of the radial head is a frequent complication of ulnar fracture and is often unrecognized at examination. As it is at times difficult to get satisfactory x-ray plates of damaged elbows on account of limitation of motion, it is easy to miss some details of the deformity.

In the forearm as in all other regions it is essential to institute reduction of the deformity before hemorrhage, exudate, and muscular contractions have progressed far, as they make the work more difficult, or often almost impossible. What can be accomplished with comparative ease at first, in a few hours is a difficult job even with an open operation. In emergency it is better to reduce first and x-ray later, than to wait for hours for an opportunity to get a picture before starting treatment. The x-ray is of its greatest value in the period of after treatment, to check the position of the fragments repeatedly. Reduction of deformity should be as perfect as possible. Any deviation from the normal is apt to be accompanied by a disturbance of function, but slight impairments may be justly held to be less vital than the dangers of operative interference. Open operation is indicated, first, only under best surgical conditions, second, in overlapping fractures of both bones, especially of upper third of arm. Third, when the inter-position of soft tissues prevents replacement. Fourth, in cases seen so late that reduction is prevented by swelling, hemorrhage, and muscular contraction. Fifth, in any fracture where the deformity cannot be adequately reduced by manipulation and its continuance forms a serious handicap to the function of the arm.

Deformity once reduced, the part should be fixed in normal position by proper dressings, until enough callus has formed to hold the fragments in place. This period of absolute fixation should be as short as practicable. The fingers should always be left free, so as to provide for motion of the tendons, which prevent adhesions in the sheaths and contraction and fixation of the muscles. Passive motion of the wrist and elbow, not later than the second week, and often earlier with massage and the application of light and heat, will not only shorten the convalescence, but render the return of normal function much more certain.

CONCLUSIONS:

1. Anatomical reduction is rare.
2. Function is relatively good and often practically perfect in spite of obvious deformity.
3. Various degrees of coincident anatomical deformity and functional disability are too frequent.

In order to improve our results, we should first of all try to avoid any additional insult to the damaged tissues. It is usually not necessary to our diagnosis to elicit crepitus and abnormal motion, and as these are painful, should be looked for after the patient is anesthetized.

Anesthesia should be used in practically all cases, unless there is some serious contraindication. X-ray examination should be made as early as possible, but the reduction of the fracture should not be delayed by waiting for this. X-ray examination should never be neglected after treatment. Fluoroscopic examination is more or less unsatisfactory. We should always have pictures in two planes and stereoscopic plates are very useful in many conditions. If our first attempt is proven to be unsuccessful, further attempts should be made at once, and results rechecked until the best possible result is obtained. Retention apparatus should be fitted carefully, with the individual mechanical problem in view, and should be inspected frequently and removed for daily passive motion and other treatment as soon as practicable.

Discussion

Dr. W. W. Bowen, Fort Dodge—I want to say just a word and will go to the blackboard to say it. The essayist has repeatedly spoken of the fragments being in line. They do not have to be in line. We will say that is the radius (illustrating), this is one fragment and there is the other fragment. I believe Dr. Dakin had the same idea that I have, but I do not think he got it to you. He seemed to try to make us believe that the axis of this fragment had to be in line with the axis of the other one. But if the fragments are parallel that is all you need, they do not have to be in direct line. You then get a perfect functional result in every case.

Dr. Charles S. James, Centerville—I wish to commend the essayist for his paper and to express my particular appreciation of his stressing the subject of alignment. To my mind the essayist did get it over exactly right and I fully agree with Dr. Bowen that the thing of particular importance is the question of alignment in the lower extremity where you have a weight-bearing bone, where you have a case you discharge with the x-ray plate showing an excellent anatomical and probably a good end functional result, but by the use of that weight bearing member the patient reports two or three months later with a bowing deformity you cannot correct and you have to dig down in your pocket in order to satisfy the claimant or his attorney. Alignment is exactly as Dr. Bowen and the essayist have shown. Here is the alignment (illustrating), we find that here is a good anatomical result, but poor alignment. The axis of this bone is the same as the axis of that bone, but the anatomical approximation is not good. However, nature will give you a good functional end result. (Illustrating): Here you have a good ap-

proximation, anatomically perfect, but the alignment is not correct and the use of that weight-bearing member will result in disaster. I trust you all get the point.

Dr. Charles E. Ruth, Des Moines—The only point I want to speak of is with reference to the matter of pronation and supination. If we think for a moment of the muscular action that tends to maintain displacement in the fragments, if fracture of the radius or the ulna takes place through the pronator quadratus or just at the upper part of the pronator quadratus, there is a tendency to approximation of the upper end of the lower fragment to that of the opposite bone. It is impossible to arrange a perfect alignment and relation of the two bones. In such a case dressing of the limb half way between pronation and supination will usually give a good functional result because the pronator quadratus does not produce a great amount of displacement. What I wish particularly to speak of is the fracture that takes place far above the insertion of the pronator radii teres, when you have the supinator brevis and the biceps fully supinating the upper fragment. The pronator quadratus and the pronator radii teres will fully pronate the lower fragment. If in that case you do not supinate the lower fragment to the limit and maintain that supination, you have almost completely lost pronation and supination.

Dr. Dakin—All I need to say in closing the discussion is to again call your attention to the conclusions as set forth in my paper.

THE PREOPERATIVE MANAGEMENT OF PROSTATICS*

A. A. SCHULTZ, M.D., Fort Dodge

My interest in the subject which I am privileged to present to this Society today, dates back to 1911 and 1912 when I was serving my internship. I was far from favorably impressed with the outcome of the average prostatectomy which was performed at that time. Why an operation which took but a few minutes to perform, had such a high mortality was a puzzle. The patient would come in one day with a diagnosis of prostatic hypertrophy, the diagnosis was confirmed by manual examination on the second day and perhaps on the third day he was operated. Within a very short time, in the majority of cases the old man "petered out" as we used to say. The mortality was high of course, but was not due to the shock of prostatectomy, but to the lack of preoperative examination and treatment. The patient was not "trained" for the operation. He had no more chance than the prize fighter entering the ring without a course of intensive training.

During the past five years the profession has

*Read before the Austin Flint-Cedar Valley Medical Society.

begun to wake up and figure out that there was a reason for the high mortality from prostatectomy in the past, and are beginning to realize that any obstruction in the genitourinary tract be it urethral, prostatic or ureteral, if not relieved, ultimately results in kidney damage and insufficiency. Even though the mortality from this operation has decreased, I believe it is still too high. The mortality should not be over 3 or 4 per cent if the cases are given the proper chance. Scherck and Jost¹ of St. Louis, also Gardner² of Buffalo say that the general mortality from prostatectomy throughout the country is 25 per cent. I will quote Scherck and Jost: "We collected the annual reports of a large number of general hospitals scattered throughout the country, and carefully tabulated all the prostatectomies done in these various hospitals, together with the results, which were in the majority of instances classified under two heads 'died' or 'recovered'. The percentage of deaths following operation from this investigation was found to be somewhat over 25 per cent. The names of the operators were unknown and the hospitals embraced the more general hospitals in a large number of cities." Now compare the above with the record of men who are using every available means to prepare these patients for operation. Gardner² had one death in a consecutive series of 190 unselected cases. Dr. A. J. Crowell² of Charlotte, North Carolina, reports 145 cases with one death.

Prostatectomy is no longer an emergency operation, the day has passed when a prostatic should be rushed to the hospital as a last resort, his prostate removed and the death certificate signed in a few days. This operation should be advised long before the effects of chronic obstruction with residual urine, cause an endless chain of symptoms and jeopardize life per se. I believe that every physician should advise against the prostatic catheter life, explain the seriousness of continued obstruction and get him to the operating table before his kidneys become hopelessly damaged. But since the public can not always be educated it is up to us to actually "nurse these prostates out".

The average prostatic who finally decides on operation is a thin dejected elderly individual who perhaps is leading the catheter life, or spends most of his time both night and day straining to void a few ounces of urine, leaving most of it in the bladder to decompose. He has gastrointestinal disturbances secondary to urosepsis, the appetite is gone, sleep is impossible and the blood-pressure usually high.

Now what will we do with the above described

individual? The first thing of course will be to gradually draw away the urine from that chronically over distended bladder, and I say gradually because withdrawal of all the urine at one sitting is attended with grave danger and has caused not a few deaths. You cannot suddenly relieve the pressure in bladder and kidneys without causing marked engorgement of the renal vessels and those of the bladder wall and thus suppression of urine. If possible to catheterize, the urine can be drawn off in small amounts at intervals of several hours by means of the indwelling catheter. Suprapubic puncture with a trocar and the insertion of a catheter through the cannula is very successful. Immediate supra pubic cystotomy should not be done in advanced septic cases. You all have seen deaths following this operation.

If the patient is not so far advanced as above described, a general survey of his condition should be made before anything in the way of operative procedure is attempted, except possibly regular catheterization and irrigation of the bladder. This survey includes a general physical examination to determine especially the condition of the cardiovascular system, respiratory and nervous systems. It is useless to do a radical major operation on a man in the last stages of cardiovascular disease. It is ridiculous to remove the enlarged prostate from a man whose bladder symptoms are mostly due to myelitis or tabes. Briefly the internist should say whether the patient has other pathology outside of the urinary tract, which would make palliative measures only advisable.

The urological examination is of course the most important and the chief idea in mind in making this examination is; First: Determine whether or not there are coexisting conditions which are partly responsible for the symptoms. Second: Study the urine. Third: Determine the functional condition of the kidneys. Fourth: Determine the reserve index of the kidneys, the latter being of the utmost importance.

The most common conditions which may co-exist are: stricture of the urethra, renal or vesical stone and cancer, papilloma or diverticulum of the bladder. Extra vesical conditions which should be ruled out are myelitis, sclerosis and tabes. We must not forget that occasionally the earliest symptoms of tabes are referable to the bladder.

The cystoscope is almost indispensable in disclosing the presence of calculi, bladder tumors, diverticula, and the degree and character of the intravesical enlargement of the prostate. Not infrequently malignancy of the prostate is diagnosed by means of the cystoscope. It is much

more satisfactory to recognize a papilloma with the cystoscope before prostatectomy and remove it by fulguration, than during the rough manipulation of enucleation break up the tumor and cause implantation in freshly denuded tissue. It is far more comfortable to recognize a carcinoma of the bladder before operation than to incidentally find it during the course of a prostatectomy or possibly not at all until continued urological symptoms following the operation leads to its discovery. It is an advisable procedure, following cystoscopy to put in a soft rubber indwelling catheter for a few days.⁹ Cystoscopy always traumatizes the prostatic urethra and not infrequently causes the patients first acute retention. Repeated cystoscopies in younger men with beginning hypertrophy may hasten the hypertrophy.

The chief things to consider in the examination of the urine are: 1. Specific gravity. 2. Output. 3. Content of urea and solids. 4. The presence or absence of acetone. In most advanced cases, the urine will contain pus and some blood, which is a manifestation of the usual cystitis. From 2 to 8 ounces or more of residual urine is common.

Beware of the patient, apparently in fair condition who is passing a large amount of pale limpid urine with a specific gravity around 1003, containing a small amount of urea and solids and a positive test for acetone. These men regardless of appearances are liable to go into uremia on the least pretext.

By all odds the most important methods by which a conclusion as to the condition of the kidneys in any given case can be arrived at are: 1. Thalein functional test. 2. Blood chemistry. In interpreting the result of the functional test we must bear one fundamental fact in mind viz: The functional efficiency of an organ is an index to its health from a physiological standpoint. An organ may to a certain extent be diseased and yet able to perform its function properly under ordinary circumstances. The functional efficiency or inefficiency of an organ may or may not be proportionate to the anatomical lesions. The above principle applied to prostatic cases means just this: a normal pthalein output does not always signify undamaged kidneys. The functional test simply ascertains the filtering power and not the reserve index, the latter being ascertained by blood chemistry. A low pthalein output should always cause great concern and in the great majority of cases means kidney damage. In short the pthalein test is a valuable aid, but not an infallible criterion, as many physicians seem to think.

The assistance of blood chemistry in this condition gives, I believe, according to all authorities the most valuable information and is most trustworthy, because it offers absolute incontrovertible evidence regarding the metabolic state and renal efficiency. We know that if the blood contains an excess of urea, uric acid or creatinine, the kidneys are "loafing on the job" and need attention. The first evidence of renal insufficiency is a retention of uric acid, a little later the retention of urea nitrogen can be determined and lastly excess of creatinine. This proves that creatinine is most easily eliminated from the kidney and uric acid the most difficult while urea occupies an intermediate station. Normal blood should contain from 12 to 15 m.g. of urea nitrogen, 2 to 3 m.g. of uric acid and 1 to 2 m.g. of creatinine per 100 cc. (3) For all practical purposes, in dealing with prostatic obstruction the estimation of urea nitrogen is sufficient and is an excellent preoperative prognostic test. The creatinine estimation is not absolutely necessary because any case which shows creatinine retention will already show sufficient urea to make the patient a poor risk. In advanced cases of prostatic obstruction the urea nitrogen will go as high as 40 to 60 m.g. per 100 cc. These cases positively should not be operated until every means has been exhausted to decrease this nitrogen retention. Squier and Myers³ have summarized their chemical blood observations on a series of fifty-eight cases of prostatic obstruction as follows: "The blood urea has been found to be an extremely valuable preoperative prognostic test in these cases, in our hands more valuable than any other. Cases showing urea nitrogen figures under 20 m.gm. per 100 cc. of blood may be regarded as good operative risks so far as the kidneys are concerned. When the urea nitrogen figures are found between 20 and 30 m.gm., and especially between 25 and 30, the patient should be operated on with considerable caution, and best after a period of preliminary treatment directed to relieve the nitrogen retention. The data here recorded indicate that with urea nitrogen figures over thirty, the operative prognosis is bad."

The estimation of hemoglobin in these cases should not be overlooked because prognosis is very unfavorable in cases with low hemoglobin. Bransford Lewis⁴ makes the following statement "Hemoglobin above 60 per cent is favorable, 50 per cent is questionable, 40 per cent unfavorable, 30 per cent fatal in connection with prostatectomy."

Now, after having determined the exact physical condition of these patients, what can we do to get them in shape for prostatectomy. I have

mentioned above that in the desperate cases, the indwelling catheter should be used and the urine drained off intermittently until the back pressure is relieved, and the patient's condition has improved to the point where suprapubic drainage is safe. Very few patients will stand an indwelling catheter for any length of time so that in order to establish efficient drainage, suprapubic cystotomy must be done at the earliest possible moment. This gives an opportunity for intensive irrigation of the bladder, and as a result the kidneys at once show increased function, the patient gets some well earned sleep, the appetite improves, the blood-pressure decreases, the urine clears up, there is gain in weight, the skin becomes clearer, the mental condition improves and your patient feels like living again.

Cystotomy is preferably done under 2 per cent procaine anesthesia or gas and an incision made into the highest point of the bladder which has previously been distended with boric or protargol solution. Cutting into the peritoneum can be avoided by placing the patient in the Trendelenburg posture and carefully exposing the bladder by using the gauze covered finger, to loosen the prevesical tissues and the fold of peritoneum. The bladder is recognizable by its large veins and muscular bundles. A curved pezzar catheter or ordinary seven-eighths inch rubber tube is sutured into the highest point of the bladder wound. Only about one inch of the tube should project into the bladder. If more than one inch is introduced it is liable to press on its base and cause straining and pain in the end of the penis.⁵ Bransford Lewis⁴ prefers to suture the bladder up squarely against the under surface of the abdominal wall, making an agglutination, which prevents burrowing or spreading of infection. The incision is closed according to the choice of the operator. The patients in uncomplicated cases are usually up in three to five days and should be encouraged to get up soon after operation, for they are usually old men, and do not stand confinement well.

While supra pubic drainage comes first in improving the patient's condition, there are other things we can do.

If there is nitrogen retention in the blood it goes without saying that we must decrease the nitrogen intake while still keeping up the caloric needs of the body.⁶ The favorable influence of a protein free diet or one low in protein has been demonstrated by Goodall⁷ using Folins

starch and cream diet for four or five days, followed by a low protein diet for a considerable period. Increasing the output of the kidneys by increasing fluid intake will cause an increase in nitrogen output. The value of such drugs as Diuretin is quite questionable as shown by Christian.⁸ Many cases show a tendency to acidosis and proctoclysis, by the drop method, 5 per cent sodium bicarbonate or glucose for five or six hours a day will prove to be a satisfactory restorative.

The alimentary tract should receive due consideration. Many of these patients have a mouth full of infected teeth, which are constantly pouring out pus into the gastrointestinal tract, thereby doing their bit to lower resistance. The interval between the operations is not a bad time to rid the mouth of infection.

The question naturally comes up: How long should the operative interval be? I can only answer this by saying that this depends entirely upon how soon the patient recuperates or recovers sufficient kidney function and reserve to make it safe to do a prostatectomy. Repeated functional tests and estimates of urea nitrogen will be the guide, keeping in mind that the pthalein output must be above 30 per cent in two hours to promise a favorable outcome, and figures of 30 mg. or over per 100 cc. for urea nitrogen are unfavorable. From a week to several weeks may elapse before the patient is ready. In 190 cases operated by Gardner² the longest period was ten weeks, and the average seven days.

In conclusion I wish to leave with you the following statement made by Deaver⁹: "In every operative case there are three stages before, during, and after the operation. Of these the first is the most important, the third stage, getting the patient well, is next in importance, while the second or operative stage is the least important of the three. In this I believe every experienced surgeon will concur."

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CHICAGO MEETING OF AMERICAN
MEDICAL ASSOCIATION

We no longer venture to say that this was one of the largest and most interesting meetings of the Association ever held. It is quite impossible to say how big it was. To the writer it was a very important one, as it marked the fiftieth year of membership. From the 1874 session in Detroit to the 1924 session in Chicago, many changes have occurred, so many, indeed, it scarcely seems the same organization either in method or character of scientific work. Never was there a failure to press forward the importance of improvement in medical education. The low standard of preliminary education and the short and unorganized courses of instruction in the medical schools were dwelt upon, leading finally to the organization of a council, which in a relatively short time completely re-organized medical education in the United States, greatly extending the time and expense of a medical education. After fifty years of personal observation, we are brought to the point where the President of the Association asks us to stop and consider if we have not gone too far in our demands for higher education for medical practitioners.

President Pusey in his address before the House of Delegates, presented some thoughts in relation to medical education that should receive the most serious consideration. For several years past medical journals have published many papers and addresses from men high and low in the medical profession, diagnosing an economic

disorder said to prevail in the medical profession which has to a certain extent reacted on the general public. The most serious symptoms are said to be specialism and commercialism in cities and larger towns, the disappearance of the family doctor and the shortage of physicians in the country villages. The diagnoses have been numerous, but remedies worthy of serious consideration have been few. Dr. Pusey has boldly and fearlessly offered a remedy that has real merit. In considering Dr. Pusey's remedy, we should take into consideration the genius of the American people. We should consider the fact that social conditions in the United States are quite different from those of Europe or of the Latin American states. In these states the relation of government to the people is quite different. In the United States the medical profession is open to all classes of people and is a matter of private initiative and enterprise and subject to state control only insofar as certain educational requirements are concerned. In Europe, the government fixes the standard and regulates the practice of medicine, except insofar as individual members of society are financially able to hire their own physicians. In so far as a large part of the people are concerned, the government determines the conditions of medical practice and the fees to be paid.

We may not stop here to inquire why state medicine in the United States would be strenuously opposed by the medical profession, and why it apparently receives medical and popular support in Europe, we can only refer to the different social and political organization.

We are reminded that the long and expensive course of training preparatory to entering on a medical career eliminated the country doctor, and to a considerable extent the family physician, and compels the medical graduate to seek professional employment that will give him adequate returns on his investment and a suitable reward for his skill and services.

Dr. Pusey assured us that a four years high school course is a suitable educational preparation for the study of medicine, and three years for a medical degree, thus saving three years to the medical graduate. Whether this reduction in time would remedy the difficulties so far as country physicians are concerned, is uncertain, but certainly offers the best solution. The physician of fifty years ago had far less preparation than this would afford. It will probably be objected that the greatly increased field of medicine could not be cultivated in three years' time, but it has been said that a very considerable proportion of students get no advantage out of much that is in-

cluded in the four year's course. We feel quite certain that this is true, and that the educational course of a medical practitioner should be revised in the light of our past experience. We do not mean to say that physicians are over-educated and do not fit into proper places as practitioners; but we do mean to say, that what the profession has to offer will result in fewer highly trained men entering upon the practice of medicine except as specialists in large towns or cities, and the increase in irregular practitioners or cults. The condition of medical practice in rural communities has been referred to many times and the relief from community hospitals, good roads and automobiles has also been considered, but to one familiar with the conditions of country practice, more is needed, the willingness of young men to locate in country places, indeed, he cannot afford to, considering what he has invested in his education.

If we are to revise medical education so far as to reduce the time by three years, means should be provided for graduate study, for research work, and for training for special work.

In certain regions of the United States the public are considering how a supply of physicians may be secured for the treatment of common diseases, even in towns of considerable size. The osteopaths and chiropractors are open to them, it is true, but most people want a doctor when they are sick. Most people when they are sick think they need a physician, and there is danger that the public will take up state medicine as a means of relief, securing to them real physicians, in whom they may have a measure of confidence. Cults will come and go, and fill a place demanded by the peculiar psychology of certain individuals. It will always be so, but never to the extent of supplying the place of physicians. It is probable that the masses of people will not demand the highest degree of culture on the part of the physician. A plain common man who knows the people and what they need, with a sufficient knowledge of medicine to diagnose common diseases and apply the remedy.

We are impressed with the idea that the high school graduate, and three years of medical training will serve as a standard for general practice and take us back to the past in medicine, the passing of which we so often deplore. We are sure we know many successful practitioners who have filled, and are now filling, important places in medicine, and are the men we would like to see returning to the old vacant places. We have with wonderful rapidity developed our medical schools to an ideal standard of training. We have gathered students in laboratories and lec-

ture rooms, we have poured into their ears a vast amount of scientific knowledge, much of which we believe has not found lodgement. If this is true, how much may be stricken out without impairing the usefulness of the student as a doctor? May we eliminate three years, as suggested by Dr. Pusey? It is certainly worth serious consideration.

The present standard of medical education has been reached by strenuous effort and many sacrifices, and an attempt to make any material reduction will meet great resistance. But we need not reduce our standards so far as medical research is concerned, or reduce the opportunities for advanced training, which will fit men for any position in the field of medicine, and give ample opportunity to young men who may aspire to the highest degree of culture.

Is it not true that we have undertaken to fit men for leadership and not to fill the places made vacant by the disappearance of the rank and file of the profession which has rendered such valuable service in the past, and thus encouraged a substitution which we so deplore? We believe that practitioners whose experience and observation spreads over a period of fifty years, will find much to commend in the address referred to.

DR. C. F. APPLEGATE

The medical profession will recall the fact that Dr. Applegate was for many years connected with the Iowa insane hospitals. For six years he was assistant physician at the Clarinda State Hospital, and for nineteen years superintendent of the Mount Pleasant Hospital. His services to Iowa state institutions covered a period of nearly twenty-six years.

In 1920 Dr. Applegate was appointed superintendent of the Norwalk State Hospital at Los Angeles, California. From the Los Angeles Examiner of May 26, we learn of Dr. Applegate's future intentions, and also of the esteem in which he is held in California. This information will be of interest to the Iowa medical profession with which he was so long associated. After spending a year in the Orient and in Europe, where he will visit the medical centers, he will return to Los Angeles, where he will practice his specialty.

"After twenty-five years of service as superintendent of state hospitals, Dr. C. F. Applegate, medical superintendent of the Norwalk State Hospital, has tendered his resignation, to take effect July 1.

"Dr. Applegate has been head of the Norwalk institution since 1920 and was largely instru-

mental in perfecting the organization of the hospital. He has served for thirty-five years as a physician in the care of the insane, and for the last twenty-five years has been director of large institutions.

"Accepting the resignation, W. D. Wagner, director of institutions for the state, has informed Dr. Applegate that he does so with sincere regret and his thanks for the great services rendered to the wards of the state.

"Doctor Applegate in giving up his Norwalk post because of his desire to retire from active service and to take a vacation after his long years of work. He and Mrs. Applegate are planning a trip to Europe and around the world."

INTER-STATE POST GRADUATE ASSEMBLY OF AMERICA

Directed by

Tri-State District Medical Association

Milwaukee, Wisconsin, October 27, 28, 29, 30 and 31,
1924

PROGRAM

First Day

Monday, October 27, 1924

7 a. m.

1. Diagnostic Clinic (pediatrics). Premature infants, their care feeding and future. Dr. Julius H. Hess, Prof. of Pediatrics, University of Illinois, School of Medicine, Chicago, Illinois.

2. Diagnostic Clinic (surgical). Lesions of upper abdomen centering about the stomach and gall-bladder. Dr. Harry M. Richter, Prof. of Surgery, Northwestern University, School of Medicine, Chicago, Illinois.

3. Diagnostic Clinic (medical). Joint diseases. Dr. Ralph A. Kinsella, Associate Prof. of Medicine, University of St. Louis, School of Medicine, St. Louis, Missouri.

Intermission (Review Exhibits)

4. Diagnostic Clinic (surgical). Kidney infection or tumor; gall-bladder, gastric or duodenal ulcer, stomach or colonic carcinoma (in fact, any abdominal tumor). Dr. George E. Brewer, Emeritus Prof. of Surgery, Columbia University, College of Physicians and Surgeons, New York, N. Y.

5. Diagnostic Clinic (medical). Gastric or gall-bladder diseases. Dr. John A. Witherspoon, Prof. of Medicine, Vanderbilt University, Medical Department, Nashville, Tennessee.

Afternoon Session

1 p. m.

6. Diagnostic Clinic (surgical). Genito-urinary cases. Dr. William E. Lower, Prof. of Urology, Western Reserve University, School of Medicine, Cleveland, Ohio.

7. Diagnostic Clinic (medical). Diseases of the heart, the lungs, particularly pneumonia, pleurisy, etc.; diseases of the blood, diseases of the biliary passages and liver. Dr. David Riesman, Prof. of Clinical Medicine, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania.

8. Diagnostic Clinic (surgical). Acute and chronic abdominal cases. Dr. N. J. MacLean, Associate Prof. of Surgery, University of Manitoba, Faculty of Medicine, Winnipeg, Canada.

9. "Pertussis; Treatment by X-Ray". Dr. Julius H. Hess, Prof. of Pediatrics, University of Illinois, School of Medicine, Chicago, Illinois.

10. "The Logic of Gastric Resection in Ulcer". Dr. Harry M. Richter, Prof. of Surgery, Northwestern University, School of Medicine, Chicago, Illinois.

11. "Treatment of Certain Types of Chronic Rheumatism". Dr. Ralph A. Kinsella, Associate Prof. of Medicine, University St. Louis, School of Medicine, St. Louis, Missouri.

12. Abscesses in the Posterior Mediastinum". Dr. Charles B. Lyman, Prof. of Clinical Surgery, University of Colorado, School of Medicine, Denver, Colorado.

Intermission (Review Exhibits)

13. "Late Results in Fractures of the Femur in Children". Dr. Vernon C. David, Assistant Prof. of Surgery, Rush Medical College, Chicago, Illinois.

14. "Systemic Manifestations of Achylia Gastrica". Dr. LeRoy Crummer, Prof. of Medicine, University of Nebraska, College of Medicine, Omaha, Nebraska.

15. "Non-Malignant Obstruction of the Pylorus in the Aged". Dr. John A. Witherspoon, Prof. of Medicine, Vanderbilt University, Medical Department, Nashville, Tennessee.

16. "Bacteriological and Pathological Studies in Certain Putrid and Gangrenous Processes, with Especial Reference to Fusospirochete Infections". Dr. David J. Davis, Prof. of Pathology and Bacteriology, University of Illinois, School of Medicine, Chicago, Illinois.

Evening Session

7 p. m.

17. "Some Easily Overlooked Manifestations of Circulatory Failure with Remarks upon Diagnosis and Treatment". Dr. David Riesman, Prof. of Clinical Medicine, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania.

18. "The Diagnosis of Bone Tumors". Dr. Dallas B. Phemister, Assistant Prof. of Surgery, Rush Medical College, Chicago, Illinois.

19. Subject later. Dr. Joseph Evans, Prof. of Medicine, University of Wisconsin, School of Medicine, Madison, Wisconsin.

20. "Anatomical Studies of Tuberculous Infection of the Human Lung". Dr. Edward Miloslavich, Director of Department of Pathology and Bacteriology, Marquette University, School of Medicine, Milwaukee, Wisconsin.

Intermission (Review Exhibits)

21. "Ulcerative Colitis". Dr. Ralph C. Brown, Assistant Prof. of Medicine, Rush Medical College, Chicago, Illinois.

22. "The Principles of the Spread of Infection". Dr. Don M. Griswold, Prof. and Head of Department of Preventive Medicine and Hygiene, State University of Iowa, Iowa City, Iowa.

23. "Skin Reactions". Dr. William F. Petersen, Associate Prof. of Pathology and Bacteriology, University of Illinois, School of Medicine, Chicago, Illinois.

Second Day

Tuesday, October 28, 1924

7 a. m.

1. Diagnostic Clinic (pediatrics). Breast feeding cases, including babies with their mothers from birth to the end of the first year. Dr. Laurence R. DeBuys, Prof. of Pediatrics, Tulane University, School of Medicine, New Orleans, Louisiana.

2. Diagnostic Clinic (surgical). Chronic arthritis cases. Dr. Leonard W. Ely, Prof. of Surgery, Stanford University, School of Medicine, San Francisco, California.

3. Diagnostic Clinic (medical). Goitre cases: adolescence, toxic adenoma, and exophthalmic. Dr. Charles A. Elliott, Prof. of Medicine, Northwestern University, School of Medicine, Chicago, Illinois.

Intermission (Review Exhibits)

4. Diagnostic Clinic (surgical). Brain tumors. Dr. Walter E. Dandy, Associate Prof. of Surgery, Johns Hopkins University, School of Medicine, Baltimore, Maryland.

5. Diagnostic Clinic (medical). Infectious arthritis and atrophic arthritis. Dr. Louis M. Warfield, Prof. of Internal Medicine, University of Michigan, School of Medicine, Ann Arbor, Michigan.

Afternoon Session

1 p. m.

6. Diagnostic Clinic (surgical). Abdominal cases. Dr. John B. Deaver, Prof. of Surgery, University of Pennsylvania, Graduate School of Medicine, Philadelphia, Pennsylvania.

7. Diagnostic Clinic (surgical). Dr. Dean Lewis, Prof. of Surgery, Rush Medical College, Chicago, Illinois.

8. "The Treatment of Goitre". (Slides.) Dr. Charles A. Elliott, Prof. of Medicine, Northwestern University, School of Medicine, Chicago, Illinois.

9. "The Localization of Brain Tumors". Dr. Walter E. Dandy, Associate Prof. of Surgery, Johns Hopkins University, School of Medicine, Baltimore, Maryland.

10. "Rheumatoid Arthritides". Dr. A. MacKenzie Forbes, Clinical Prof. of Orthopedics, McGill University, Faculty of Medicine, Montreal, Canada.

11. "Goitre". Dr. Wallace Irving Terry, Prof. of Surgery, University of California, School of Medicine, San Francisco, California.

Intermission (Review Exhibits)

12. Symposium, "Diagnosis of Surgical Lesions of the Upper Genito-Urinary Tract". Dr. William E. Lower, Prof. of Urology, Western Reserve Uni-

versity, School of Medicine, Cleveland, Ohio; Dr. Bernard H. Nichols, Department of Roentgenology, Cleveland Clinic, Cleveland, Ohio.

13. "The Clinical Diagnosis of Pericarditis with Effusion". Dr. Roger S. Morris, Prof. of Medicine, University of Cincinnati, School of Medicine, Cincinnati, Ohio.

14. "Abdominal Contusions Associated with Visceral Injury". Dr. George E. Brewer, Emeritus Prof. of Surgery, Columbia University, College of Physicians and Surgeons, New York, N. Y.

Evening Session

7 p. m.

15. "Surgery of Jaundice". Dr. John B. Deaver, Prof. of Surgery, University of Pennsylvania, Graduate School of Medicine, Philadelphia, Pennsylvania.

16. "The Pathological Physiology of Jaundice". Dr. Stanley P. Reimann, Director of Laboratories, Lankenau Hospital, Philadelphia, Pennsylvania.

17. "Observations on the Treatment of Goitre Cases". Dr. N. J. MacLean, Associate Prof. of Surgery, University of Manitoba, Faculty of Medicine, Winnipeg, Canada.

18. "Recent Progress in Thoracic Surgery". Dr. Carl A. Hedblom, Prof. of Surgery, University of Wisconsin, School of Medicine, Madison, Wisconsin.

19. "Neuro-psychiatric Manifestations of Pellagra". Dr. Marvin L. Graves, Prof. of Medicine, University of Texas, School of Medicine, Galveston, Texas.

20. "Medical Treatment of Empyema with Especial Reference to Chemotherapy". Dr. Ralph H. Major, Prof. and Head of Department of Medicine, University of Kansas, School of Medicine, Rose-dale, Kansas.

Theatre Party

Third Day

Wednesday, October 29, 1924

7 a. m.

1. Diagnostic Clinic (surgical). Ulcer of the jejunum and other abdominal cases. Dr. Wallace Irving Terry, Prof. of Surgery, University of California, School of Medicine, San Francisco, California.

2. Diagnostic Clinic (dermatology). Skin diseases. Dr. Charles J. White, Prof. of Dermatology, Harvard University, School of Medicine, Boston, Massachusetts.

3. Diagnostic Clinic (orthopedic). Tuberculosis of the bones, deformities, spastic paralysis, sciatica, etc. Dr. A. MacKenzie Forbes, Clinical Prof. of Orthopedics, McGill University, Faculty of Medicine, Montreal, Canada.

Intermission (Review Exhibits)

4. Diagnostic Clinic (surgical). Cystocele, rectocele and enterocele associated with and without procidentia Uteri in young and old women. Dr. George Gray Ward, Jr., Prof. of Obstetrics and Gynecology, Cornell University, School of Medicine, New York, New York.

5. Diagnostic Clinic (surgical). Cases in which etiology can be traced to focal infection. Dr.

Charles H. Mayo, Mayo Clinic, Rochester, Minnesota.

Afternoon Session

1 p. m.

6. Diagnostic Clinic (surgical). Contractures, deformities, tumors, etc. of hand. Dr. Allen B. Kanavel, Prof. of Surgery, Northwestern University, School of Medicine, Chicago, Illinois.

7. Diagnostic Clinic (surgical). Chronic ulcer of stomach and duodenum. Dr. John F. Cowan, Prof. of Surgery, Stanford University, School of Medicine, San Francisco, California.

8. "The Treatment of Septicaemias and Intoxications in Infants and Children". Dr. Alan Brown, Prof. of Pediatrics, University of Toronto, Faculty of Medicine, Toronto, Canada.

9. "Focal Infection as a Cause of Disease". Dr. Chas. H. Mayo, Mayo Clinic, Rochester, Minnesota.

10. "The Value of Gastro-Enterostomy for Duodenal Ulcer". Dr. John A. Hartwell, Associate Prof. of Surgery and Clinical Surgery, Cornell University, Medical College New York, New York.

11. "Rickets". Dr. Laurence R. DeBuys, Prof. of Pediatrics, Tulane University, School of Medicine, New Orleans, Louisiana.

12. "Chronic Arthritis". Dr. Leonard W. Ely, Prof. of Surgery, Stanford University, School of Medicine, San Francisco, California.

13. "Intestinal Protozoa: Their Recognition and Relation to Chronic Diseases, with Especial Reference to Arthritis". (Slides.) Dr. John V. Barrow, Los Angeles, California.

14. "The Anatomy and Physiology of the Abnormal Kidney". Dr. Milton C. Winternitz, Dean of Yale University School of Medicine: Prof. of Pathology and Bacteriology, New Haven, Connecticut.

Intermission (Review Exhibits)

15. "Ulcer and Cancer of the Stomach". Dr. George W. Crile, Prof. of Surgery, Western Reserve University, School of Medicine, Cleveland, Ohio.

16. "Epidermophytosis". Dr. Charles J. White, Prof. of Dermatology, Harvard University, School of Medicine, Boston, Massachusetts.

17. "Medical Advancement and Research". Dr. Dean Lewis, Prof. of Surgery, Rush Medical College, Chicago, Illinois.

18. "Occult Tuberculosis". Dr. Louis M. Warfield, Prof. of Internal Medicine, University of Michigan, School of Medicine, Ann Arbor, Michigan.

19. "Direct Blood Stream Infection from Tonsils". Dr. Samuel J. Crowe, Clinical Prof. of Laryngology, Johns Hopkins University, School of Medicine, Baltimore, Maryland.

Evening Session

7 p. m.

20. "Iron in Therapy". Dr. Charles S. Williamson, Prof. of Medicine, University of Illinois, School of Medicine, Chicago, Illinois.

21. Symposium, University of Minnesota Graduate School of Medicine (Mayo Clinic) Rochester, Minnesota.

"Renal Calculus".

"The Development of Renal Calculus". Dr. Charles H. Mayo, Mayo Clinic, Rochester, Minnesota.

"The Production of Urinary Calculi by the Devitalization and Infection of Teeth in Dogs with Streptococci from Cases of Nephrolithiasis". Dr. E. C. Rosenow, Mayo Clinic, Rochester, Minnesota.

"Clinical Data with Nephrolithiasis". Dr. W. F. Braasch, Mayo Clinic, Rochester, Minnesota.

22. "The Prevention of Post-Operative Ileus". Dr. LeRoy Long, Dean and Prof. of Surgery, University of Oklahoma, School of Medicine, Oklahoma City, Oklahoma.

23. "The Hypertension Syndrome in General Practice". Dr. John H. J. Upham, Prof. and Head of Department of Medicine, University of Omaha, School of Medicine, Columbus, Ohio.

24. "Traumatism of the Head". Dr. Garfield M. Hackler, Prof. of Surgery, Baylor University, School of Medicine, Dallas, Texas.

25. Symposium, "Contagious and Infectious Diseases".

"Endocarditis". Dr. Joseph A. Capps, Prof. of Medicine, Rush Medical College, Chicago, Illinois.

"The Diagnosis and Treatment of Gonococcus Infection". Dr. Russell D. Herrold, McCormick Institute for Infectious Diseases, Chicago, Illinois.

"The Use of Immune Serum to Protect Young Children from Measles". Dr. George Weaver, McCormick Institute for Infectious Diseases, Chicago, Illinois.

"Immunity Results Obtained with Diphtheria Toxoid (modified toxin) in the public schools of New York City (Manhattan and the Bronx)". Dr. Abraham Zingher, Assistant Prof. of Hygiene, University and Bellevue Hospital, Medical College, New York, New York.

Fourth Day

Thursday, October 30, 1924

7 a. m.

1. Diagnostic Clinic (pediatrics).

(1) Any newborn infant having either erysipelas, umbilical infection, pyaemia, meningitis, arthritis, etc., or any infection of the new born.

(2) Case of intestinal intoxication, acidosis in an older child, burn toxemia, any case of chronic infection with possibility of a bacteremia such as an acute mastoid, acute or chronic osteomyelitis, etc.

(3) Any infant or child—mongolian, microcephalic, hydrocephalic or spastic deplegia or any case of arrested mental development.

(4) Any infant—1 or more—marasmus, rickets, pyloric stenosis or an ordinary feeding case, i. e. an infant who is not a marantic but is simply not up to the standard weight and development.

(5) Case of eczema in an infant or child.

(6) Any case of valvular heart disease.

(7) A case of chronic intestinal indigestion in an older child (Coeliac disease).

(8) A case of recurrent vomiting or acidosis in an older child.

(9) Any type of feeding case.

Dr. Alan Brown, Prof. of Pediatrics, University of Toronto, Faculty of Medicine, Toronto, Canada.

2. Diagnostic Clinic (surgical). Gall-bladder disease, cancer of the rectum or large intestine, osteomyelitis and fracture of the long bones, particularly about the joints. Dr. John A. Hartwell, Associate Prof. of Surgery and Clinical Surgery, Cornell University, Medical College, New York, New York.

3. Diagnostic Clinic (orthopedic). Joint tuberculosis; Pott's disease, hip, knee joint and ankle disease. Infantile paralysis cases: deformities of various types both of the extremities and the spine. Dr. Russell A. Hibbs, Prof. of Orthopedic Surgery, Columbia University, College of Physicians and Surgeons, New York, New York.

Intermission (Review Exhibits)

4. Diagnostic Clinic (medical). Chest cases: thoracic aneurism, pleurisy, pneumonia. Dr. Frederick J. Kalteyer, Associate Prof. of Medicine, Jefferson Medical College, Philadelphia, Pennsylvania.

5. Diagnostic Clinic (surgical). Stomach and gall-bladder diseases. Dr. George W. Crile, Prof. of Surgery, Western Reserve University, School of Medicine, Cleveland, Ohio.

Afternoon Session

1 p. m.

6. Diagnostic Clinic (surgical). Fractures of the upper extremities. Dr. William Darrach, Dean and Associate Prof. of Surgery, Columbia University, College of Physicians and Surgeons, New York, New York.

7. Diagnostic Clinic (surgical). Thyroid cases, T. B. glands of the neck, esophageal diverticulum, spinal accessory paralysis, thyro-glossal cysts and gall-stone cases, particularly with jaundice. Dr. Francis H. Lahey, Prof. of Clinical Surgery, Harvard University, School of Medicine, Boston, Massachusetts.

8. "Modern Aids to Labour". Dr. William B. Hendry, Prof. of Obstetrics and Gynecology, University of Toronto, Faculty of Medicine, Toronto, Canada.

9. "History Taking in Gastro-intestinal Disease as Based upon a Working Conception of the Development and the Activities of the Tract". Dr. William Goldie, Associate Prof. of Medicine, University of Toronto, Faculty of Medicine, Toronto, Canada.

10. "The Treatment of Joint Tuberculosis and the Deformities of Infantile Paralysis". Dr. Russell A. Hibbs, Prof. of Orthopedic Surgery. Columbia University, College of Physicians and Surgeons, New York, New York.

Intermission (Review Exhibits)

11. "Prophylactic Blood Transfusion as a Routine Measure in Poor Operative Risks". Dr. George Gray Ward, Jr., Prof. of Obstetrics and Gynecology, Cornell University, School of Medicine, New York, New York.

12. "Anomalous Peritoneal Bands; Their Clinical Significance and Treatment". Dr. Walter L. Niles, Dean and Prof. of Medicine, New York, New York Cornell University, School of Medicine.

13. "The Diagnosis and Treatment of Tuberculosis of the Seminal Tract". Dr. Hugh H. Young, Clinical Prof. of Urology, Johns Hopkins University, Medical Department, Baltimore, Maryland.

14. "Surgery of the Hand". Dr. Allen B. Kanavel, Prof. of Surgery, Northwestern University, School of Medicine, Chicago, Illinois.

Evening Session

7 p. m.

15. "The Interpretation of the Cough Symptom". Dr. Frederick J. Kalteyer, Associate Prof. of Medical Jefferson Medical College, Philadelphia, Pennsylvania.

16. "Prognosis in Chronic Heart Disease". Dr. Walter T. Connell, Prof. of Medicine, Queen's University Faculty of Medicine, Kingston, Canada.

17. "Food Poisoning". Dr. Milton J. Rosenau, Prof. of Preventive Medicine and Hygiene, Harvard University, School of Medicine, Boston, Massachusetts.

18. "Healing of Fractures". (Slides.) Dr. John F. Cowan, Prof. of Surgery, Stanford University, School of Medicine, San Francisco, California.

19. "Abnormally Located Goiters". Dr. Francis H. Lahey, Prof. of Clinical Surgery, Harvard University, School of Medicine, Boston, Massachusetts.

20. "The Significance of Impaction and Active Motion in Treatment of Fractures of Hip and Shoulder". (Slides.) Dr. John L. Yates, Milwaukee, Wisconsin; Dr. G. W. Stevens, Milwaukee, Wisconsin.

21. Symposium, Western Reserve University, School of Medicine (Crile Clinic) Cleveland, Ohio. "The Diagnosis and Treatment of Gall Bladder Diseases".

"Medical Aspects". Dr. John Phillips.

"The Role of the X-ray in Diagnosis". Dr. Bernard H. Nichols.

"Surgical Aspects". Dr. George W. Crile, Prof. of Surgery, Western Reserve University, School of Medicine, Cleveland, Ohio.

Fifth Day

Friday, October 31, 1924

7 a. m.

1. Diagnostic Clinic (medical).

(1) Nervous manifestations in childhood, e. g., night terrors, wandering away, bad habits.

(2) Chronic invalidism in an adult.

(3) An early schizophrenic case (dementia praecox).

(4) The depressed type of reaction.

(5) A case with some paranoiac beliefs.

Dr. C. Macfie Campbell, Prof. of Psychiatry, Harvard University, School of Medicine, Cambridge, Massachusetts.

2. Diagnostic Clinic (surgical). Surgical cases. Dr. William J. Mayo, Mayo Clinic, Rochester, Minnesota.

3. Diagnostic Clinic (surgical). Surgical cases. Professor Theodore Tuffier, Prof. of Surgery, Faculty of Medicine, Paris, France.

Intermission (Review Exhibits)

4. Diagnostic Clinic (medical). Gastro-intestinal cases (some of these to be duodenal spasm of various origins. Dr. William Goldic, Associate Prof. of Medicine, University of Toronto, Faculty of Medicine, Toronto, Canada.

5. Diagnostic Clinic (urology). Chronic prostatitis, tuberculosis of the prostate hypertrophy of the prostate. Dr. Hugh H. Young, Clinical Prof. of Urology, Johns Hopkins University, Medical Department, Baltimore, Maryland.

Afternoon Session

1 p. m.

6. Diagnostic Clinic (gynecological). Cases of retroversion, prolapse, hypertrophy of the cervix, cystocele, rectocele, etc. Dr. William B. Hendry, Prof. of Obstetrics and Gynecology, University of Toronto, Faculty of Medicine, Toronto, Canada.

7. Diagnostic Clinic (surgical). Chronic appendicitis. Sir Henry Gray, Royal Victoria Hospital, Montreal, Canada.

8. Diagnostic Clinic (surgical). Fixation and deformity of the intestine by anomalous peritoneal bands, also hepato-duodenal type. (Harris Bands). Dr. Walter L. Niles, Dean and Prof. of Clinical Medicine, Cornell University, School of Medicine, New York, New York.

9. "Morbid Attitudes and Beliefs". Dr. C. Macfie Campbell, Prof. of Psychiatry, Harvard University, School of Medicine, Cambridge, Massachusetts.

10. "Address". Major-General Merritte W. Ireland, Surgeon-General of United States Army, Washington, D. C.

11. "The Transplantation of the Ovary and its Preservation". Professor Theodore Tuffier, Prof. of Surgery, Faculty of Medicine, Paris, France.

12. "Address". Rear-Admiral Edward R. Stitt, Surgeon-General of United States Navy, Washington, D. C.

Intermission (Review Exhibits)

13. "Address". Sir Arthur William Currie, President of McGill University, Faculty of Medicine, Montreal, Canada.

14. "The Value of Examinations of the Blood". Dr. William J. Mayo, Mayo Clinic, Rochester, Minnesota.

15. "Common Abnormalities of the Large Bowel; Their Influence Local and General on the Human Economy". Sir Henry Gray, Royal Victoria Hospital, Montreal, Canada.

16. "Massage and Movements in the Treatment of Fractures". Dr. William Darrach, Dean and Associate Prof. of Surgery Columbia University, College of Physicians and Surgeons, New York, N. Y.

General headquarters for all scientific sessions and exhibits will be held at the Gymnasium Building, Marquette University. A special built amphitheatre,

perfect in acoustics, comforts and conveniences for the physicians is contained in this building.

Partial list of distinguished foreign guests who will be present and take part on the program.

Professor Theodore Tuffier, Prof. of Surgery, Faculty of Medicine, Paris, France.

Mr. A. J. Walton, London, England.

Dr. John Hunter, University of Sydney, Sydney, Australia.

Dr. N. D. Royle, Craignish, Sydney, Australia.

R. Hamilton Russell, Esq., F. R. C. S., Melbourne, Australia.

Dr. Carrick Hey Robertson, F. R. C. S., Auckland, New Zealand.

Dr. Ralph Worrall, Sydney, Australia.

Dr. H. B. Devine, Melbourne, Australia.

Dr. J. S. Elliott, Wellington, New Zealand.

Banquet

At the Banquet and Public Meeting following, the Association will have as its guests, members of the profession, prominent citizens and members of civic bodies of Milwaukee.

Addresses

Monsieur J. Jusserand, French Ambassador to United States, Washington, D. C.

Sir Arthur William Currie, Vice-Chancellor of McGill University, Faculty of Medicine, Montreal, Canada.

Dr. Nicholas Murray Butler, President of Columbia University, New York, N. Y.

Professor Theodore Tuffier, Prof. of Surgery, Faculty of Medicine, Paris, France.

Major-General Merritte W. Ireland, Surgeon-General of United States Army, Washington, D. C.

Rear-Admiral Edward R. Stitt, Surgeon-General of United States Navy, Washington, D. C.

Other distinguished citizens of the world.

CLINIC TOUR

The Inter-State Post Graduate Assembly Clinic Tour of American physicians to Canada, British Isles and France starts May 18, 1925. Wonderful clinics and demonstrations conducted by the most distinguished teachers and clinicians of the countries visited. The following are the clinic cities of the regular tour:

Toronto, Montreal, London, Liverpool, Leeds, Manchester, Newcastle, Edinburgh, Glasgow, Dublin, Belfast, Paris, Lyon, Strasburg.

Besides the main tour, special or extension tours to practically all the leading centers of Europe are being arranged. While the tour is conducted principally for educational purposes, there will also be splendid sight-seeing tours and other travel features through Canada, British Isles and France, including the St. Lawrence trip, the beautiful lake region of England and the battle fields of France; in fact, all points of interest will be covered by the tour.

The tour is open to the physicians in good standing in their State or Provincial Societies and their families and friends who are not physicians.

Cost of the tour, including first-class hotels, board, steamship, clinic arrangements and all ordinary travel expenses, under \$1,000.00.

For information write William B. Peck, Managing-Director, Freeport, Illinois.

AMERICAN ADVISORY COMMITTEE ON CLINIC ARRANGEMENTS

Dr. William J. Mayo, Mayo Clinic, President of Clinics, Rochester, Minnesota.

Dr. Edward William Archibald, Prof. of Surgery, McGill University, Montreal, Canada.

Dr. Walter W. Chipman, Prof. of Obstetrics and Gynecology, University of McGill, Faculty of Medicine, Montreal, Canada.

Dr. George W. Crile, Prof. of Surgery, Western Reserve University, School of Medicine, Cleveland, Ohio.

Dr. John B. Deaver, Prof. of Surgery, University of Pennsylvania, School of Medicine, Philadelphia, Pennsylvania.

Dr. John M. T. Finney, Prof. of Surgery, Johns Hopkins University, Medical Department, Baltimore, Maryland.

Dr. Duncan A. L. Graham, Prof. of Medicine and Clinical Medicine, University of Toronto, Faculty of Medicine, Toronto, Canada.

Dr. Charles F. Martin, Dean and Prof. of Medicine, McGill University, Faculty of Medicine, Montreal, Canada.

Dr. Charles H. Mayo, Mayo Clinic, Rochester, Minnesota.

Dr. Allen Kanavel, Prof. of Surgery, Northwestern University, School of Medicine, Chicago.

Dr. Alexander Primrose, Dean and Prof. of Clinical Surgery, University of Toronto, Faculty of Medicine, Toronto, Canada.

Dr. Clarence L. Staar, Prof. of Surgery, University of Toronto, Faculty of Medicine, Toronto, Canada.

THIRTY-SEVENTH ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE MISSOURI VALLEY

Des Moines, Iowa, September 17, 18, 19, 1924

All Session and Clinics held in Ball Room, Hotel Fort Des Moines.

PROGRAM

Wednesday Morning

Clinic

Polk County Medical Society

8:30	Obstetrics.....	Dr. A. C. Page
9:15	Surgery.....	Dr. Chas. Ryan
10:00	Head Surgery.....	Dr. J. A. Downing
11:00	Gastro-Enterology.....	Dr. J. T. Strawn
11:45	Dermatology.....	Dr. J. F. Auner

Afternoon, 1:30 p. m.

"Experience with Parasitic Diseases of the Intestines" (Lantern Slides)—J. M. Mayhew, Lincoln-Nebraska.

"PRIMARY AND COMPLEMENTAL JEJUNOSTOMY IN THE TREATMENT OF ILEUS"

(Surgical Symposium)

(a) "Surgical Mile Stones in the Treatment of Ileus"—A. R. Mitchell, Lincoln, Nebraska.

(b) "Fundamental Principles in the Surgical Treatment of Acute Ileus"—A. I. McKinnon, Lincoln, Nebraska.

(c) "The Toxin in Acute Ileus"—H. H. Everett, Lincoln, Nebraska.

(d) "Complemental Jejunostomy in the Treatment of Potential Ileus"—Czar C. Johnson, Lincoln, Nebraska.

Discussion: John E. Summers.

Evening Session, 7:30 O'clock

"Infantile Paralysis" (illustrated by moving pictures)—Frank Dickson and Rex L. Diveley, Kansas City, Missouri.

Smoker—(Courtesy Polk County Medical Society.)

Thursday, Morning

Clinic

Polk County Medical Society

8:30	Medicine.....	Dr. W. L. Bierring
9:15	X-Ray.....	Dr. T. A. Burcham
10:00	Diabetes.....	Dr. E. B. Winnett
11:00	Pediatrics.....	Dr. L. F. Hill
11:45	Urology.....	Dr. C. W. Losh

Afternoon, 2:00 p. m.

"The Use of Radium from a Surgical Standpoint"—Paul A. White (by invitation), Davenport, Iowa.

"Goiter and Its Treatment" (illustrated)—E. P. Sloan, Bloomington, Illinois.

"TUMORS OF THE BREAST" (A Symposium)

(a) "Surgical Viewpoint"—Wm. Jepson, Sioux City, Iowa.

(b) "As He Sees Them" (Internal Medicine)—V. L. Treynor, Council Bluffs, Iowa.

(c) "As He Sees Them" (General Practitioner)—J. C. Waterman, Burke, South Dakota.

(d) "X-Ray"—A. P. Overgaard, Omaha, Nebraska.

Discussion: Donald Macrae.

Thursday Evening Session

Annual Banquet 6:30 o'clock.

President's Address—H. J. Lehnhoff, Lincoln, Nebraska.

"Vascular Diseases with Especial Reference to Capillaries"—George E. Brown (by invitation), Rochester, Minnesota.

"Knee Joint Injuries and Their Management"—Philip Kreuscher (by invitation), Chicago, Illinois.

Friday, Morning

Clinic

Polk County Medical Society

8:30 Medicine.....	Dr. J. S. Weingart
9:15 Surgery.....	Dr. O. J. Fay
10:00 Neurology.....	Dr. F. A. Ely
11:00 Heart.....	Dr. M. M. Myers
11:45 Orthopedics.....	Dr. W. E. Wolcott

Afternoon, 2:00 p. m.

"Cataracts: Treatment with a Subconjunctival Injection of Cyanide of Mercury"—F. W. Dean, Council Bluffs, Iowa.

"DIABETES" (A Symposium)

(a) "The Nature of the Diabetic Metabolic Anomaly"—Geo. H. Hoxie, Kansas City, Missouri.

(b) "Diabetic Management"—C. C. Hubly (by invitation), Battle Creek, Michigan.

(c) "Insulin"—L. H. Fuson, St. Joseph, Missouri.

(d) "Borderland Cases"—J. M. Bell, St. Joseph, Missouri.

Discussion: A. D. Dunn.

GUESTS

Paul A. White, M.D., Davenport, Iowa.

George E. Brown, M.D., Rochester, Minnesota.

Philip Kreuscher, M.D., Chicago, Illinois.

C. C. Hubly, M.D., Battle Creek, Michigan.

Palmer Findley, M.D., President Nebraska State Medical Association.

Wm. A. Clark, M.D., President Missouri State Medical Association.

L. C. Taylor, M.D., President Illinois State Medical Society.

Frank M. Fuller, M.D., President Iowa State Medical Society.

Alfred O'Donnell, M.D., President Kansas Medical Society.

Everett S. Lain, M.D., President Oklahoma State Medical Association.

Herbert Moulton, M.D., President Arkansas Medical Association.

OFFICERS 1923-1924

H. J. Lehnhoff, President, Lincoln, Nebraska.

Palmer Findley, First Vice-President, Omaha, Nebraska.

J. C. Waterman, Second Vice-President, Burke, South Dakota.

O. C. Gebhart, Treasurer, St. Joseph, Missouri.

Charles Wood Fassett, Secretary, Kansas City, Missouri.

THE EXHIBIT

Hotel Fort Des Moines—Mezzanine Floor

Local Arrangement Committee:

John Martin,

L. K. Meredith,

W. J. Fenton, Des Moines.

SOCIETY PROCEEDINGS

Meeting of the Austin Flint-Cedar Valley Medical Society July 8 and 9, 1924 at Mason City

The meeting of the Austin Flint-Cedar Valley Medical Society was called to order by the president, Dr. J. G. Evans at 1 p. m. on Tuesday, July 8 at Mason City. The minutes of the last meeting were read and approved. The program for the afternoon was given as printed:

Surgical Clinic—Presentation and Discussion of Surgical Cases, Dr. Howard L. Beye, Iowa City.

What the General Practitioner Should Know About Insulin—Dr. C. H. Graening, Waverly.

Demonstration of the Anatomy of the Hand in Relation to Hand Infections—Dr. H. J. Prentiss, Iowa City.

Treatment of Hand Infections—Dr. Howard L. Beye, Iowa City.

The demonstration of the Anatomy of the Hand by Dr. H. J. Prentiss followed by the Surgical Treatment of Hand Infections by Dr. H. L. Beye was most enthusiastically received as the anatomy and surgery was clearly outlined so that the general practitioner could easily acquire the information. A paper on Insulin by Dr. C. H. Graening was also thoroughly practical.

At 6:30 the members and their wives assembled at the Congregational Church at Clear Lake for the Austin Flint-Cedar banquet. This banquet proved to be everything that was expected from an Austin Flint-Cedar banquet with music, speeches and a general hilarious good time. After the banquet the members attended the various dance halls at Clear Lake and finally adjourned to their respective lodging places along towards morning. At 10:30 a. m. on Wednesday morning, July 9, the ladies were entertained at the Mason City Country Club at a late morning breakfast which was thoroughly enjoyed by all. Mrs. A. B. Phillips of Clear Lake deserves a vote of thanks for the delightful entertainment for the ladies.

The scientific meeting again assembled at 8 a. m., Wednesday, July 9. The program was given as printed with the exception of Dr. F. H. Cutler who was not present to read his paper. The following program was given:

Cases in Which the Artificial Menopause Is Indicated—Dr. F. H. Cutler, Cedar Falls.

Coronary Thrombosis—Dr. L. R. Woodward, Mason City.

Peptic Ulcer—Dr. E. L. Wurtzer, Clear Lake.

The Treatment of Syphilis—Dr. H. W. Scott, Iowa City.

Potter's Version in Obstetrics—Dr. C. M. Franchere, Mason City.

All of the papers were freely discussed and many practical points brought out. The presidential address by Dr. J. G. Evans proved to be a masterpiece in oratory and literature and his theme of the Country Doctor was handled as only a country doctor of thirty years' experience could handle it. Dr. Evans

received a hearty ovation at the close of his address.

The business meeting was then held. The board of censors acted on the following applications received at the meeting at Waverly, November 13, 1923: Dr. D. L. Young, Clarksville and Dr. Hans Haumeder, New Hampton. The board of censors approved the applications and the applicants were voted into membership of the society. The following applications for membership were received at this meeting: Dr. C. F. Roder, Dumont; Dr. F. J. Bries, Sumner; Dr. W. A. Bockoven, Ridgeway; Dr. G. H. Granaue, Riceville, and Dr. Edward Nowak, New Hampton.

Dr. C. E. Dakin brought word to the meeting that Dr. G. C. Stockman of Mason City was ill and unable to attend the meeting but was at his office and would appreciate any of the members calling upon him. It was moved, seconded and carried that the secretary send a bouquet of flowers to Dr. Stockman in appreciation of his loyal membership for so many years. This was done.

A card of thanks from Mrs. T. A. Hobson and son of Parkersburg was received and read by the secretary in appreciation of the flowers sent to Dr. T. A. Hobson by the Austin Flint-Cedar Medical Society. A resolutions committee composed of W. A. Rohlf, Paul E. Gardner and L. C. Kern submitted the following resolution before the society:

Whereas: Death has removed from this life our colleague and fellow member Dr. Thomas A. Hobson.

Be It Resolved: That we have lost an active member from our society, a true and loyal friend, a capable and efficient physician and a lovable and delightful companion.

Moved: That a copy of the above resolution be sent to his widow and a copy be recorded in the minutes of this society and published in the Iowa State Medical Journal.

Signed,
W. A. Rohlf,
Paul E. Gardner,
L. C. Kern.

Dr. C. H. Cretzmeyer of Algona invited the society to Algona for the autumn meeting. Because of conflicting dates and the usual inclement weather of November it was decided to amend the by-laws and hold the meeting at Algona on the first Tuesday in October, October 7, 1924. Dr. Cretzmeyer's invitation was unanimously accepted.

The following officers were elected for the coming year: President, Dr. C. F. Starr, Mason City; vice-president, Dr. John McDannell, Nashua; treasurer, Dr. W. E. Long, Mason City; secretary, Dr. L. A. West, Waverly.

The scientific session reassembled at 1 p. m. on Wednesday, July 9 and the program as printed was given:

Medical Clinic—Presentation and Discussion of a Series of Splenic Cases—Dr. H. Z. Griffin, Rochester, Minnesota. Presentation and Discussion of a Series

of Medical Cases in Children—Dr. H. F. Helmholz, Rochester, Minnesota.

Twenty Centuries of Pseudo-Science—Dr. M. B. Call, Greene.

Injuries to Carpal Bones—Dr. G. N. Wassom, Oelwein.

Problems in Diagnosis—Dr. C. M. Wray, Iowa Falls.

The clinics conducted by Drs. Giffin and Helmholz were very much appreciated as the presentation and discussion of the cases was brought out in a definite manner. The papers on the afternoon program were fully discussed.

The Austin Flint-Cedar meetings are growing bigger and better every year. About ninety doctors registered at this meeting and were very enthusiastic in regard to both the scientific and social program which was carried out. The Mason City physicians are to be congratulated for the splendid arrangements made and the excellent groups of cases obtained for the various clinics. L. A. West, Sec'y.

Audubon County Medical Society

The Audubon County Medical Society met July 16 at the office of Dr. Halloran in Audubon. A paper was read by Dr. Lot of Carroll.

Davis County Medical Society

Davis County Medical Society met at the Bloomfield Country Club July 15 and was addressed by Dr. C. S. Chase of Iowa City.

Medical Associations from Butler and Floyd Counties

The Medical Associations from Butler and Floyd Counties, their wives included, held a joint meeting at the Round Grove Golf and Country Club.

There was a very good attendance and the meeting was considered very profitable. The afternoon was concluded with a fine picnic supper, which the ladies knew so well how to prepare and to which all did ample justice. —Green Recorder.

Greene County Medical Society

The Greene County Medical Society met at the home of Dr. and Mrs. G. W. Kester, Grand Junction, Iowa, June 20 at 7 p. m. There were eleven doctors present as follows: Drs. Dean, Black, B. C. Hamilton, Jr., Franklin, Parry, Cressler, Reed, Shipley, Kester, Jackson and Lucke.

After enjoying a very nice supper the meeting adjourned to the dining room where the following program was given: Treatment and Prevention of Diphtheria, Dr. B. C. Hamilton, Jr.; Aneurism of Left Renal (?) Artery, case report, Dr. J. R. Black; Vincent's Angina, Dr. Richard Lucke.

The papers were generally discussed by members of the society. It was voted to hold the next quarterly meeting in September at the home of Dr. and Mrs. F. E. Cressler, Churdan.

F. E. Cressler, President,
Richard Lucke, Secretary.

Jefferson County Medical Society

The Jefferson County Medical Society held a meeting recently, the social part being in the form of a picnic at Chautauqua park and the scientific program being given at the Victory theater.

Three out of town speakers were on the program: Dr. Frederick H. Falls and Dr. Vern C. Graber of the University of Iowa and Dr. S. A. Spilman of Ottumwa. Dr. W. T. Webb represented the local society on the program.

Jasper and Marion County Medical Societies

Meeting in joint session in Pella, Thursday, August 14, 1924.

Program as follows:

1. Paper by Dr. D. Wright Wilson, professor and head of the department of physiological chemistry, University of Pennsylvania.

2. Paper on General Paralysis of the Insane, by Dr. A. C. Carson, clinical director, U. S. Veteran's Hospital, Knoxville, Iowa.

3. Paper by Dr. Hinshaw of Newton.

The scientific program followed by a banquet in the evening.

Lucas County Medical Society

The Lucas County Medical Society met in Chariton, Tuesday evening, August 5, at the home of Dr. David Q. Storie. The scientific program consisted of a talk on Pulmonary Tuberculosis, by Dr. John H. Peck of Des Moines, followed by a clinic; and a paper, illustrated with lantern slides, on Glioma of the Pons Varoli Simulating Fronto-motor Tumor, by Dr. Tom B. Throckmorton of Des Moines.

Matters pertaining to the welfare of the Lucas County Medical Society were discussed at the business session, and the Secretary of the State Medical Society made it clear that the State Society was ready and willing to help in every way possible.

Mitchell County Medical Society

The annual meeting of the Mitchell County Medical Society was held June 25, in Dr. Westenberger's office, St. Ansgar, 2 p. m. After the usual business of the society it was moved that the by-laws be waived and the officers be elected by unwritten ballot. The result of the election was: Dr. Krepelka, Stacyville, president; Dr. Osborn, St. Ansgar, vice-president; Dr. Lott, Osage, secretary-treasurer; Dr. Smith, Stacyville, censor for three years.

Dr. Guy A. Lott, Sec'y-Treas.

Mitchell County Medical Society

The July meeting of the Mitchell County Medical Society was entertained by Dr. Smith of Stacyville on the 17th. Dr. Paul Gardner, New Hampton, councilor of the fourth district, and Dr. Nicholas Shilling, also of New Hampton, were present and gave a paper on The Management and Care of the New Born Infant, which was interesting as well as instructing. Dr. Smith gave a case history which

was discussed by Dr. Shilling. Dr. Krepelka brought out a few very important points in diagnosis of cases; which was very apt to come up in every-day practice.

Dr. Guy A. Lott, Sec'y-Treas.

Pocahontas County Medical Society

The Pocahontas County Medical Society met in regular session at the court house on July 15. Minutes of the previous meeting read and approved.

Paper—Vascular Hypertension, Dr. W. A. Porath, Varina.

Paper—The Hemoclaastic Crisis of Widal, Dr. A. G. Asher, Fort Dodge.

E. C. Kempter, Sec'y.

Taylor County Medical Association

The Taylor County Medical Association met in the Community Club rooms Tuesday afternoon, July 15. Ten doctors of the county were present, and some important subjects were discussed. Another meeting of the association will be held in August, also at Bedford. This was the first meeting held in 1924, and the medical men hope to liven up the association for the future.

Tama County Medical Association

Members of the Tama County Medical Association and their wives were entertained by the Tama Commercial Club, at a luncheon served in the Arguey dining room, followed with a program and business session in the commercial club rooms. Dr. G. T. McDowell, president of the association, conducted a round table discussion on summer ailments of children, in which all the attending physicians took part. At the business session it was decided to have a picnic at Conant's park some time during the month of August, the exact date to be determined later.

—Toledo Chronicle.

MEDICAL NEWS NOTES

Iowa Circulating Medical Library

Iowa does another thing better. It is the only state in the union which makes a large number of medical volumes available to practitioners all over the state for the cost of postage. In other words, Iowa has the only state circulating medical library in the United States.

The library is on the second floor of the state library and contains 6,200 volumes with hundreds of periodicals which furnish an inexpensive and useful asset to doctors all over the state. Miss Van Zandt, the librarian, said one of the regular patrons of the library is a Minnesota doctor.

Although the library has been established only three years, many doctors in the state are using it. Figures to May, 1924, show that 716 of the 3,590 physicians in the state make use of it, or nearly 20 per cent. Its use is growing steadily. For the first five months of 1924 there were 1,063 books loaned

out of town as against 815 during the same period of the preceding year.

Des Moines figures were 1,319 for the first five months of 1924 and 1,514 for the entire year of 1923. During this period of 1924 the library had had 400 out of town visitors to 552 for all of 1923, and 587 Des Moines visitors compared with 1,118 the year of 1923. Miss Van Zandt has added a new class of visitors for 1924—the "regulars", who have made 386 calls on the library.

The library also renders service in furnishing bibliographies with literature on any desired subject. It has had numerous calls for this, especially when new scientific discoveries or epidemics rouse curiosity in some branch of practice.

"We could do more with a little publicity and more funds", Miss Van Zandt said. "The lawyers get it all. Doctors ought to go into politics. In Minnesota they have a law library of 90,000 volumes and, of course, no medical library. We're doing pioneer work here in Iowa—and of course the conditions are almost 'covered wagon'. When the doctors wake up and insist we'll have more facilities".

Miss Van Zandt is an alumnus of Cornell University and has studied under some of the foremost medical and scientific authorities in the country.—Des Moines Register.

A French Saranac

Dr. Edmund L. Gros, an American physician in Paris, one of the organizers of the Lafayette Escadrille, and a group of men and women have launched a movement to establish a tuberculosis sanitarium similar to that founded by the late Dr. Edward L. Trudeau at Saranac Lake, New York. The site has been selected at Passy in the French Alps, which has an altitude of 4,000 feet. It is planned to name two of the eight-bed cottages in memory of Dr. Trudeau, and Americans will be asked to contribute \$20,000 necessary for the purpose. Nearly 1,000,000 francs have already been subscribed toward the movement. The present death rate of tuberculosis in France is 211 per 100,000 inhabitants.—Journal American Medical Association.

A memorial to Lord Lister has been unveiled near the last place of residence of the great surgeon, at Portland Place, London. The unveiling was performed by Sir John Bland-Sutton.

PERSONAL MENTION

Col. D. S. Fairchild, Jr., who will complete a three years' service as division surgeon, Canal Zone, Panama, September 16, will be assigned as instructor Medical Officers National Guard for Connecticut with headquarters at New Haven.

Dr. Taylor R. Jackson, formerly of Albia, has located in Chariton.

Dr. A. F. Caldwell of Odebolt has located in Des Moines and will limit his practice to diseases of the eye, ear, nose and throat.

Dr. A. B. Phillips of Mason City has moved his office to Clear Lake.

Dr. N. C. Rogers of Chicago has located at Storm Lake.

Dr. Emmet Kenefick, who completed an intern service of two years, at a St. Paul Hospital, has returned to Algona, where he will be associated with his father M. J. Kenefick at the Algona Hospital.

Dr. G. E. MacFarland of Stanhope has located in Ames.

Dr. C. G. Stookey of Olin has returned to his old practice at Mechanicsville.

Dr. Albert Reck of Whittmore has located at Swea City.

Dr. Walter Annesburg, who recently graduated from the Iowa University School of Medicine, has joined the firm of Drs. Annesberg and Martin at Carroll.

Dr. Max C. Frazer of Oskaloosa has returned from three weeks' service at Fort Snelling with the Sixth and Seventh Army Corps area.

Dr. C. Hamilton has located at Wilton Junction.

Dr. R. U. Chapman of Des Moines, celebrated his eighty-seventh birthday July 24.

Dr. Martin J. Fardy of Minot, North Dakota, has located in Carroll.

Dr. C. A. Kearney of Dubuque has returned from Fort Snelling where he was in training with the medical corps of the Seventh Army Corps area.

Dr. Edward C. Meggers of Elkader has taken over the Clark Hospital at McGregor.

Dr. Joseph Hall Whiteley and wife and two sons, Jenner and Robert, sailed from New York City on Saturday, July 12, for the Philippine Islands where Captain Whiteley will have overseas duty in the regular army for a term of years. They will go via Panama Canal, San Francisco, and Honolulu, stopping a week or so at each point.—Bonapart Herald.

Dr. Hans Hanson of Logan, Iowa, has been appointed as medical officer in charge of the new veterans hospital at St. Cloud, Minnesota.

Dr. and Mrs. Arthur Steindler entertained the doctors and nurses of Dr. Steindler's staff of the orthopedics department of the Children's Hospital, at their home on the west side. A picnic supper was served on the lawn, the courtesy including about twenty.

Local literary circles have discussed with sorrow the death of Sarah F. Hazen, widow of late Dr. E. H. Hazen, who was identified for many years with the literary life of this city. Soon after coming here from Davenport, Mrs. Hazen became leader of the Eaton Chautauqua circle. Her hospitable home, Oak Lawn, was always open to chautauqua gatherings and for one year she was president of the Society of the Hall in the Grove. Since the Hazens removed to California, the ill health of her husband and herself kept her almost entirely confined at home but her friends here were interested in her work until the time of her death.—Des Moines Register.

Dr. H. J. Hartje of Mineola, Iowa, a town south of Council Bluffs took over the practice of Dr. A. J. Zook, who is leaving Adair after twenty-four years'

practice. Dr. Hartje is a graduate of Creighton University, Omaha, and following a year's work as intern at a Kansas City hospital, took special work at the Mayo Hospital at Rochester, Minnesota, from which place he came to Adair. Dr. Zook soon will go to California to locate permanently.—Atlantic News.

Dr. David W. Smouse returned to Des Moines April 3 after seven years' residence in Los Angeles. The former Des Moines physician, who is heavily interested in various financial concerns and a stockholder in several banks in this city, declared that Los Angeles is a city of inflated values, high rents and while it was the cheapest city to live in seven years ago it is now one of the most expensive. Dr. Smouse will not resume active practice in Des Moines but will continue to be interested in the office maintained by Dr. W. O. Smouse, in the K. of P. building.

Dr. and Mrs. James Taggart Priestley observed their golden wedding anniversary very quietly April 30.

Charles S. James, M.D., F.A.C.S., announces the removal of his offices from Clinic Building, Centerville to the Westlake Professional building, 2007 Wilshire Boulevard, Los Angeles.

MARRIAGES

Dr. Charles J. Ryan of Des Moines and Miss Esther Juslessen of Pine City, Minnesota, were married July 9, 1924.

Dr. Walter R. Fuseler of Iowa City and Miss Hilda A. Theilmann of Holstein, were married July 29. Both bride and groom were graduates of Iowa State University.

Dr. Duncan B. Harding of Iowa City and Miss Marjorie Heberling of Tiffin were married July 24.

Dr. Clement A. Sones of Des Moines and Miss Alice Fischer of Elmhurst, Illinois, were married July 9.

OBITUARY

Dr. Edward Hornibrook of Cherokee, died at his home in Cherokee, Monday, June 30, 1924, at the age of eighty-six years.

For many years Dr. Hornibrook was one of the best known physicians of Iowa, not only for his skill as a practitioner of medicine and surgery, but also for his sterling qualities as a man and as a gentleman. The records of the State Medical Society are filled with the evidence of his sound judgment and thoughtful regard for the interests of the profession and for the welfare of the Society, which he constantly attended.

Dr. Hornibrook was born in the Province of Ontario, Canada, in 1838. His parents were natives of Ireland. He received his preliminary education in the public schools of Canada and his medical education at Victoria University, from which he graduated. He began the practice of medicine the same

year and came to the United States in 1879 and located in Cherokee, where he continued in the practice of medicine until increasing years and failing health compelled his retirement.

Dr. Hornibrook served for six years as superintendent of the Insane Hospital at Independence, appointed by Governor Horace Boise. He was interested in medical organization and was one of the organizers of the Cherokee County Medical Society.

Dr. Hornibrook became a member of the Iowa State Medical Society in 1888, and was president in



DR. EDWARD HORNIBROOK

1898. In his address as president, his plea was for the family physician, "Who hear the first wail of the infant in the natal chamber and into whose ear is poured the last moan of suffering in the chamber of death."

In 1863 he was married to Miss Rosina Stevens, a native of England, to whom was born ten children, one Dr. Freeman Hornibrook, died six years ago, whose death was a shock to Dr. Edward from which he never fully recovered. Mrs. Hornibrook died five years ago.

In politics Dr. Hornibrook was a democrat; in religion a Presbyterian. As a man, he was a patriotic American citizen. His death was due to paralysis and bladder complications.

Mrs. Eleanor S. Stockman, the wife of Dr. G. C. Stockman of Mason City, died June 18, 1924, at Sierra Madre, California.

Mrs. Stockman was well known as an active worker in women's welfare activities.

Dr. Jennie McCowen, a pioneer woman physician, died in Davenport, July 28, 1924, at the age of eighty years.

Dr. McCowen had a true call to become a physi-

cian and for many years occupied a leading position in the practice of medicine in Iowa. Dr. Jennie McCowen's father, Dr. John McCowen, was a prominent physician in southern Ohio in early days.

Dr. Jennie McCowen was educated in Ohio Normal School and for twelve years was engaged in teaching. She came to Iowa in 1864. In 1872 gave up teaching and entered the medical department of the Iowa State University, from which institution she graduated in 1876. Immediately after graduation she was appointed a member of the medical staff of the State Hospital for the Insane at Mount Pleasant. After three years service she resigned and began private practice in Davenport in 1880. Dr. McCowen was elected the same year secretary of the Scott County Medical Society and in 1883 was elected president and again in 1884. In 1883 she became a member of the Iowa State Medical Society, the American Medical Association and the Illinois and Iowa District Medical Association. In 1885 Dr. McCowen was elected a member of the New York Medico-Legal Society and was a vice-president in 1888. In 1889 was elected a vice-president of the International Congress of Medical Jurisprudence at the New York meeting and was re-elected at the Chicago session and again at the St. Louis session. In 1906 she was elected a delegate to represent the Medico-Legal Society of New York in the International Medical Congress in Lisbon, Portugal, before which Society she read a paper on "The Effect of Rest and Recreation on Mental Health."

Dr. McCowen was for many years connected with the Davenport Academy of Science, as librarian, and was elected secretary in 1889, re-elected in 1890 and for several years a member of the board of trustees and later on, the publication committee. She was a member of the American Association for the Advancement of Science, also a member of the Association for Letters and Arts, London. At the World's Congress of Geology she read an important paper on "Crinoid," illustrated with specimens from the Davenport Academy of Science. Later, when she was president of the Davenport Academy, she established a connection with the public schools. For many years of scientific society connection she prepared a number of scientific papers. Dr. McCowen was greatly interested in problems relating to human advancement and for many years was associated as secretary for the State Conference of Charities and Corrections. In many ways she rendered valuable service in welfare activities particularly relating to women and children, with a devotion rarely witnessed.

All these and other activities were prosecuted in connection with an active practice of her profession. As stated, she became a member of the Iowa State Medical Society in 1883 and later a vice-president. She was one of the founders of the State Society of Medical Women and was elected president in 1893 and again in 1894. Dr. McCowen was active in state and national associations for the study and prevention of tuberculosis. She was a member of the International Congress which met in New York in

1889, in Chicago, 1893; in St. Louis, 1904, and in Washington, 1907.

In 1893 she was appointed by the governor to represent Iowa at the Pan-American Congress in Washington and read a paper before the section on Nervous and Mental Diseases.

Dr. McCowen was a modest and unpretentious woman, with the true instinct of a medical practitioner, whose life was devoted to the welfare of the human race. She will be remembered in Davenport as the founder of the Lend-a-Hand Club, with its beautiful \$250,000 home on the Mississippi River, and her forty-four years of devoted service.

Funeral services for Dr. Jennie McCowen, pioneer woman physician of Davenport and the Middle West and founder of the Lend-a-Hand Club, were held July 30 at 3:30 o'clock from the Lend-a-Hand Club building. Rev. Benjamin F. Martin, pastor of the Edwards Congregational Church, officiated at the services at the club home and at the grave in Oakdale cemetery.

Honorary pallbearers were Drs. W. L. Allen, George Braunlich, E. F. Strohbehn and George Decker. Active pallbearers were Drs. J. T. Haller, P. A. Bendixen, W. H. Rendleman, E. O. Ficke, J. E. Rock and Frederick Lambach.

The body of Dr. McCowen lay in state in the lounge of the club rooms from 10 o'clock this morning until the hour of the funeral and during those hours hundreds of friends viewed the body. There was a large attendance at the funeral services also and many beautiful floral offerings.

Dr. J. D. Fulliam of Muscatine, died at his home July 25, 1924, from apoplexy.

Dr. Fulliam was born in Muscatine November 9, 1865; graduated from the Bennett Medical College, Chicago, in 1887, and began practice of medicine in his native city immediately after graduation.

Dr. Fulliam was active in community work. Among other public duties, he served on the Muscatine school board thirty-eight years.

Dr. M. D. Jewell of Decorah, died July 20, 1924.

Dr. Jewell, the son of Dr. P. M. Jewell, a well known physician of Decorah, was born at Lindon, Illinois, May 28, 1880, received his preliminary education at the Upper Iowa University, from which institution he graduated at the age of nineteen years. He graduated in medicine from the Illinois University School of Medicine, Chicago, and after an internship at Augustana Hospital, began the practice of medicine with his father at Decorah. He served during the World War as a captain in the Medical Corps.

The dangers of curettage as practiced by means of the ordinary curettes are very great, especially in the puerperal uterus. The curette breaks through the leukocytic bank, spreading the infection into blood radicles and lymph channels. It has been repeatedly shown that it is not possible to remove the

uterine content with the usual patterns of curette. Always more is retained than is removed. The bacteria have passed beyond the reach of the curette into the deeper tissues. Perforation, hemorrhage and air embolism are actual possibilities, and DeLee claims it would be just as rational to curette the nose and throat in cases of diphtheria as to curette the uterus in sepsis.

The new Huston Semi-Curette positively enables the operator to remove the entire contents without the slightest danger of injury to the endometrium. There have been many clinical reports that prove this incontrovertibly. If you place this instrument on a flat surface, so that the lower edge engages the surface, you get a good illustration of the method in utero whereby the adhering membrane cannot fail to be detached and thrown into the concave side of the instrument. At the same time, the blunt edge of the shield that runs down the entire length of the instrument is the only part that is brought into close contact with the uterine surface during the actual operation.

This simple and meritorious little instrument should attract the attention of every gynecologist. Messrs. Huston Brothers Co. are the inventors.

BOOK REVIEWS

MODERN UROLOGY

In *Original Contributions by American Authors*. Edited by Hugh Cabot, M.D., C.M.G., F.A.C.S., Dean and Professor of Surgery in the Medical School of the University of Michigan, Ann Arbor, Michigan. Vol. I, General Considerations; Diseases of Penis and Urethra; Diseases of Scrotum and Testicle; Diseases of Prostate and Seminal Vesicles. Illustrated with 398 Engravings and 11 Plates. Vol. II; Diseases of the Bladder; Diseases of the Ureter; Diseases of the Kidney. Illustrated with 288 Engravings and 8 Plates; Second Edition. Lea & Febiger, 1924. Price, Two Volumes, \$18.00.

We have presented in these volumes the work of American Urologists. In Section One will be found a chapter on the Cystoscope and its use, by Dr. Leo Buerger of New York City. In Chapter Two, Methods of Diagnoses in Lesions of the Urinary Tract, by Dr. Bransford Lewis, St. Louis. Chapter Three, Roentgen Ray Examinations of the Urinary Tract, by Dr. Preston M. Hickey, University of Michigan, and Chapter Four, Syphilis and the Genito-Urinary Organs, by Dr. P. C. Corbus, Chicago. These four chapters constitute an introduction to the study of diseases of the genito-urinary tract. There are many illustrations which aid materially in following the text of this most technical part of the work, in arriving at a diagnosis.

Following is Section Two, including Injuries and Diseases of the Penis, by Dr. H. A. Fowler of Washington, D. C. and Dr. Geo. W. Warren, New

York City. Genital Ulcers, by Dr. B. C. Corbus, Chicago. Infections of the Urethra and Prostate, by Dr. B. S. Barringer, New York City. Diseases of the Urethra in Female, by Dr. Alfred F. Osgood, New York City and Stricture of the Urethra by Dr. E. L. Keyes, New York City.

Section Three, Diseases of the Scrotum, by Doctors Geo. G. Smith, Boston; A. Raymond Stevens, New York University; Henry L. Sanford, Western Reserve University; Dr. J. Dellinger Banney, Boston, and Dr. Frank Hinman, California University.

Section Four, Diseases of the Prostate and Seminal Vesicles, by Doctors William C. Quimby, Boston; James A. Gardner, Buffalo; and Hugh H. Young, Johns Hopkins, Baltimore.

The foregoing includes the contents of Vol. I. Vol. II is divided into three sections.

Section One, The Bladder, by Drs. Herman L. Kretchmer, Chicago; William E. Lower, Cleveland; Francis R. Hagner, Washington, D. C.; John R. Caulk, St. Louis; Hugh Cabot, University of Michigan, and John T. Geraghty, Johns Hopkins, Baltimore.

Section Two, The Ureter, by Drs. Guy L. Hunter, Johns Hopkins, Baltimore; William C. Quimby, Boston; John T. Geraghty, Johns Hopkins, Baltimore; J. Bentley Squire, New York City; Edward L. Keyes, New York City, Edward L. Young, Boston; Richard F. O'Neil, Boston, Hugh Cabot and Horace Binney, Boston.

We have thus outlined the contents of the two volumes prepared from the contributions by the foremost urologists representing our great medical universities, under the editorship of Professor Hugh Cabot.

NEUROLOGIC DIAGNOSIS

By Loyal E. Davis, M.D., Ph.D., Assistant Professor of Surgery, Northwestern University Medical School, Chicago. Published by W. B. Saunders Company, Philadelphia-London. Price, Cloth, \$2.00 Net.

This book in its preface calls attention anew to the teaching methods whereby anatomical, physiological and laboratory facts are taught without being correlated to clinical findings, which methods fill the student with a mass of information which must be later sifted and analyzed by him, often resulting in confusion and lack of proper and definite understanding.

The author attempts to bring about a proper correlation of facts and symptoms with a view to intelligent and definite diagnosis. He describes disturbances of motility, gait, electric reactions, reflexes, sensations, and of speech, discussing the anatomical points involved, and then by cases illustrating various types of lesions, showing how the steps involved hinge upon each other, and how given a proper interpretation of the pathology presented, diagnosis is made simple and accurate. No attempt is made to discuss treatment.

While the book is small, and presents only typical

cases, it is felt by the author that through a careful study of these, the way to diagnosis of the atypical cases is open.

The work can be recommended from every point of view—print, illustration and subject matter.

Reynolds.

INTERNATIONAL CLINICS

A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery and Allied Branches. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, with the Collaboration of Charles H. Mayo, M.D., Rochester, Minnesota. J. B. Lippincott Company, 1924.

Vol. I, 34 Series. The Clinical Lectures are, first, Exophthalmic Goitre, by Lewellyn F. Barker, M.D., Professor Emeritus of Johns Hopkins University. Heart Disease in Children—Infantile Cerebral Paralysis, by J. P. Crozer Griffith, M.D., Professor of Pediatrics, University of Pennsylvania. Essential Hemorrhagic Purpura, by Nathan E. Brill, M.D., Mount Sinai Hospital, Professor of Clinical Medicine, Columbia University New York City.

Following these clinical lectures is a symposium on the New-Born, by a group of distinguished professors. Under the head of Diagnosis and Treatment are six papers by an international group of well known authors. Drs. Pennington and Drueck of Chicago, on Rectal Diseases. Industrial Medicine is represented by two important papers under the title of Medical Aspects of Workmen's Compensation Laws, by Frank L. Rector, M.D., and Industrial Health Supervision, by George M. Price, M.D.

The Mutter Lecture of the College of Physicians of Philadelphia was delivered by J. E. Sweet, A.M., M.D., Sc.D., Professor of Surgical Research, University of Pennsylvania, under the title of "The Gall-Bladder: Its Past, Present and Future, and published in this number of Clinics. It is an interesting and instructive paper and entitled to a careful reading.

Dr. H. W. Cattell reviewed the Progress of Medicine for 1923.

LECTURES ON ENDOCRINOLOGY

By Walter Timme, M.D., Attending Neurologist, Neurological Institute, New York; Professor of Endocrinology, Broad Street Hospital; Professor of Nervous and Mental Diseases, Polyclinic Medical School Hospital; with 27 Illustrations. Paul B. Hoeber, Inc., New York, 1924. Price, \$1.50.

This booklet of 123 pages consists of lecture on endocrinology, prepared to meet a certain demand for work of this kind. The author in his introduction divides the human life cycle into three parts: That from birth to puberty; from puberty to the prime, and the last through a gradual deterioration to dissolution, and passes to the Thymus Gland, the

Pineal Gland, the Thyroid Gland, Suprarenal Gland, Pituitary Gland and the Gonads. In the most interesting manner presents the experimental evidence and the logic of the relations of these glands through the three spans outlined in the introduction. There is perhaps a greater interest felt in the relation of these glands to the physical and mental development of the animal body than in any other subject in the science of medicine. Many scientific workers are engaged on these problems and a working basis has been established, but we are at the beginning of what may be accomplished.

This book has the merit of presenting most interesting discussion of our present knowledge of the subject which the medical profession needs.

AN OUTLINE OF RADIUM AND ITS EMMATIONS

This outline is presented by Vynue Borland, M.B., Ch.B., B.Sc., of Glasgow, Director Medical Consulting, Consulting Department. Price, \$1.00.

The object of this book is to tell something about internal radium therapy, not in relation to its external application, but the internal administration of radium and its emmations. Its indications and contradictions are pointed out and the opinions of high authorities given. The radioactivity of certain mineral springs are presented.

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Julia F. Hill, M.D.
President
State Society Iowa Medical Women
1923-1924

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CONSERVING OUR MENTAL HEALTH*

JULIA F. HILL, M.D., Des Moines

In taking up the subject of Conserving Our Mental Health we will consider:

1. The promotion of mental efficiency, in the individual, by the early training of habits in the home.
2. Some general predisposing causes of mental disease.
3. How to meet the problems of the unstable maladjusted child.
4. How to avert or modify the developmental peculiarities which predispose to the functional neuroses and psychoses.
5. The training and protection of the mentally defective.
6. The relation of the general practitioner to mental diseases and mental hygiene.

The idea prevails, even among educated people, that hygiene of the mind is needed only by those who have diseased or defective minds. It is not realized that skilled knowledge and expert advice may be of even greater value in some of the milder degrees of mental involvement. Healy says, "Mental health means more than freedom from a definite psychosis, the efficient functioning of the individual is of equal importance." The idea that children with normal minds should learn to conserve their mental health, is just beginning to impress itself upon us. It is surely just as true in mental diseases as in infectious diseases that after definite symptoms of the disease begin to appear it is then too late to get the best results from hygienic measures. Most normal individuals can profit from a more thorough understanding of the essential principals of mental hygiene, for they teach knowledge of self. They enable the individual to recognize and successfully deal with his unprofitable and hampering mental habits and attitudes, and to approximate more closely his potential capabilities. There are few persons who do not realize that they fail to reach the height

of their possibilities. Those who are in health are apt to disregard the simple laws for preserving physical well being, such as the proper use of fresh air, good food, exercise and sleep until something goes wrong; so healthful habits of mental activity are not thought of as long as the mind continues to function normally.

William Allen White calls childhood "The Golden Period for putting into effect the teachings of mental hygiene." Such training should begin when the child is first put to its mother's breast. Charles Macfie Campbell also emphasizes the importance of beginning early. He says, "The way in which simple problems of childhood are handled molds the child's habits; and his ability, to meet tests later in life, will be modified by his previous training. The child who is capricious and obstinate about his diet, and insists on his own conditions of sleep, who refuses to form regular habits of elimination, and always gains his own ends by a display of temper will have difficulty in adult life in adapting himself to the demands of a real world, which does not yield to tantrums, and exacts the price for neglect of simple hygienic habits. At an age when these problems should have been turned over to habit, leaving the individual free for the important business of life we find such a person carefully studying his diet, groaning over his unsatisfactory sleep, and fussing with all manner of laxatives. We are what our past has made us. It is not dead and buried, but a part of the living fabric of our present character. It forms the threads upon the framework of our constitution, and it is upon this warp that we weave our life, using the experiences and influences that destiny puts at our disposal."

There are certain instincts and inclinations lying dormant in every individual from birth, ready to be called into service in time of need. The stimuli that actuate these forces may arise either from within the individual, or from his environment. We must study the mental life of the child, using behavior as a means of interpretation, and attempt to inhibit or stimulate these forces as they appear to be overdeveloped or imperfectly

*Delivered by Julia F. Hill, M.D., at the State Society of Medical Women, held in Des Moines, May 6, 1924.

formed. During the first few years of life such fundamental characteristics as plasticity, suggestibility, imitativeness and a love of approbation are dominant, and these are valuable assets in any effort to model or remodel personality.

The home is the workshop in which character begins to develop, and the first ten years of a child's life is the most important period from the standpoint of habit formation. The mental atmosphere of the home is reflected in the character of the child, regardless of what his heredity may be.

The ever changing moods of the parents, their depressions, resentments and quarrels have an unwholesome influence; also the timidity of the mother, the arrogance of the father, or the overbearing attitude of an older brother. Such an atmosphere may be as dangerous to future mental health as an infectious disease is to physical well being. A well ordered home, where cheerfulness, kindly consideration, frankness and honesty are manifested, plays a part in the early development of the personality of the child that can hardly be over estimated.

William Burnham says, "The child who early learns normal habits of reaction to his impulses and feelings, who has many interests, and the power of self control furnished by them, the ability to concentrate attention on the present, habits of orderly association, and an active attitude in the face of difficulty, a steadfast purpose for service and cooperation, and a sense of honor, is not only sane, but is assured of happiness, efficiency and mental health in the future." Such wholesome conditions can only be brought about by the successful cooperation of the physician, the home and the school.

One of the influences which promises much for our children in the way of conserving their best qualities is that of such organizations as the Boy Scouts and the Camp Fire Girls. These groups stabilize ideals and standards at a period of life when all habits are formed. The personal preoccupation of the potentially neurotic child is replaced by the idea of cooperation, of working together toward one end, which is a most wholesome substitution.

Most psychoses can be considered as a reaction of the individual to his problems of adjustment; the reaction is determined by two factors, the character equipment of the individual, and the nature of the problems involved. A defect of adjustment only develops on the basis of some weak point in the personality, which can be traced to its developmental beginnings in early life. The foundation of a possible psychosis is laid in every life, for there is imbedded in the personality at

some point an imperfect capacity for adaptation. When sufficient stress occurs this defect becomes apparent in symptomatic reactions. The average mind under the influence of strain does not give out except in traumatism, toxemia, or in extreme degrees of exhaustion, and not even then with the facility of the mind predisposed to disease by bad heredity, or poor environment. (You have noticed the child who responds to a slight increase in temperature with a delirium, or the child who very easily goes into convulsions.) The experiences of the war demonstrated that any soldier, under certain circumstances, would develop a neurosis, but that the potential neurotic of civil life not only developed a neurosis under less intense traumatic environment than the normal soldier, but furthermore, that such an individual was less capable of cure. The social and economic stresses of every day life produce sufficient mental strain to bring about a neurosis in such persons.

Before the beginning of the twentieth century mental disease was looked upon from a superficial standpoint. Description and classification were the chief objects in view. Psychopathology has now come to the interpretive viewpoint. We are no longer primarily interested in classifying a case but are most anxious to get back of the symptoms and try to discover what it all means.

Our highly specialized nervous system has become what it is largely in response to demands for increased adaptation. The lower centers preside over our internal adjustments, so arranging the activities of the several organs to serve the best interests of the organism as a whole. The higher centers control our external adaptations, and should so select the attitudes and reactions toward our environment as to serve the best interests of the individual from the social standpoint.

Mental patients must be considered as individuals, who under certain conditions, are obliged to act in certain ways. The type of reaction can reach its final explanation only when the type of person exhibiting it is thoroughly understood. If we comprehend the character makeup, the nature of the etiological factors, and accessory conditioning factors, then we can understand the mechanism of the reaction, and the meaning of the psychosis; what the patient is trying to bring to pass, and how he is trying to accomplish the result. It is most important for students of mental diseases to have constantly in mind the fact that every mental symptom has an explanation, and is related to some past experience in the life of the individual, even though no such experience can be recalled by him. Disease processes

deal with the material at hand, and never create new material in the mind of the patient. "All conduct is an end product conditioned upon what has gone before."

There is a growing tendency among scientists to attribute less influence to inheritance and the continuity of the germ plasm, and to lay more stress on the influence of early environment. If we are to produce a better race of adults, we must attempt to control more of the influences that mold adult character. A practical program in this field seems possible, and offers a more workable scheme at present than that of the eugenicist. The more we know of what can be accomplished with the material given us, the better right we will have, later on, to dictate what that material should be.

While hereditary and constitutional factors do have a bearing on the development of some psychoses, in others it is so intangible that it cannot be considered in a practical way. This is quite otherwise in mental deficiency, which is largely of hereditary origin. In studying a psychosis, whether we find a hereditary background or not, the mental factors and life experiences of the patient demand our attention.

The child in a family who is finding difficulty in adaptation to the realities of life, or to its surroundings should be given special care and serious attention. The physician must decide whether the neurosis which is threatening is caused, more by inherent defects in the child itself, or by its environment. The treatment will need to be directed as often to the parents as to the child, if a successful result is obtained. The daily example of a hysterical mother is usually the explanation for a hypochondriacal child. The conduct of the parent may often be recovered in almost pure culture in the complaints and behavior of the child. Sometimes, where the parents of the child appear normal the neurosis follows a real illness. The child has its habits of stability upset and gains a place of importance in the household not before enjoyed, and which it surrenders with great reluctance.

Instead of accepting the facts that a child or adult is difficult, an intelligent effort should be made to get at the causes, to seek to understand rather than to condemn him, then to employ such remedial measures as seem best adapted to the individual case.

Dr. Anne Bingham of Johns Hopkins, has done much work with maladjusted children in Baltimore, and makes the following practical suggestions as a result of her experience.

First—There is needed early detection and wise handling of such hampering tendencies as fear,

suspicion, discontent, seclusiveness, lack of self-control, over dependence, depression, secretiveness and morbid day dreaming.

Second—A sympathetic understanding between children, parents and teachers is needed.

Third—There is an urgent need of simple straightforward but biologically sound sex instruction in childhood and adolescence.

Fourth—We need physicians with psychiatric training in connection with our schools, vocational departments, employment bureaus, and other social agencies which necessarily deal with conduct problem cases.

Fifth—There is a need for intelligent vocational advice, based on careful individual study. Work well done as a source of satisfaction is too little appreciated. This applies equally to those who have never realized their full possibilities, and to those who struggle with work which is beyond them.

Sixth—There is a need for meeting adequately and individually the loneliness problem which plays such a role in city life.

Recent studies in psychiatry have greatly broadened the field of mental hygiene. They have increased the possibility of preventing many forms of mental disorder. The incipient forms of disturbance caused by anxiety and worry over disturbing situations are responsible for a very large proportion of the functional cases of mental disease, and it is precisely these cases which, if anticipated, and handled, can be prevented. The more remote intrinsic conflicts are of equally great importance; tendencies for which the individual has never been able to find a comfortable adjustment, desires which he has always had to keep strongly repressed, may finally assert themselves as a result of the failure of gradual repression, with advancing age; or its more sudden failure, as a result of a mental shock or an acute illness. A skilled psychiatrist should be able to understand these repressed complexes and desires and find some wholesome outlet for them, before they cause serious trouble.

Some manic depressive attacks, and even certain cases of dementia precox, may be avoided where suitable environment and proper advice can be provided. It has been shown that the best means of treatment for these patients is some form of re-education involving the development of wholesome interests, regular habits of attention, and orderly association. This method so efficient in treatment, appears even more significant as a means of prevention, and thus opens up a wide field of mental hygiene especially among children and adolescent youth.

When we consider the group of mentally deficient or feeble-minded individuals we have a problem upon which the laws of mental hygiene have little or no bearing. The mentality of many of these persons is so deficient that there is little to conserve, and no amount of treatment can make them efficient citizens. We can, however, by proper training, render the most hopeless ones less of a menace to society; and help the others to maintain themselves and avoid perpetuating their kind. Since feeble-minded persons are multiplying about four times as fast as intelligent people, this problem demands the immediate attention of all who are interested in the future of our race. There are now over forty thousand mentally defective persons cared for in institutions, but this is only about 6 per cent of the total number in this country. If we may draw reliable conclusions from the number of defectives discovered among our soldiers, there are now about 700,000 in the United States.

The present methods of health examination of school children can easily be extended to insure a careful mental examination of every child retarded in school work. Rural communities and small towns can be served by a traveling mental clinic under the supervision of a state institution for feeble-minded. Special classes may then be formed in the schools and if possible, a special school building should be devoted to these children.

The determination that the child is the proper subject for a special class is of serious consequence to its future welfare. If the decision is correct it means an opportunity to partially overcome his great handicap. But no greater injustice can be done to a child than to class him as feeble-minded, and surround him with feeble-minded children, at a critical period in his life, when the difficulty is but a temporary retardation in his mental processes. For this reason the family physician should be called upon for his opinion and every effort made to prevent error.

Dr. Fernald calls our attention to the fact that "the practices of our modern civilization, and all our social agencies and other institutions, have so aided the defectives and relieved them of their burdens that they have been enabled more easily to live and propagate their kind". The only effective way to diminish the number of feeble-minded, in future generations, is to prevent the mating of those who would transmit feeble-mindedness to their descendants. There are children now in the public schools who should be in special classes, and children in special classes who should be in institutions; and thousands of irre-

sponsible adults without intelligent supervision of any kind.

We are passing through a period of gradual, but fundamental change in our whole attitude toward the problem of mental deficiency. Our state institutions are becoming less custodial, more curative and better equipped to carry on the medical and educational work needed. We must think in terms of a state-wide program for every defective in the state, and for fitting as many of them as possible for supervised parole in the community. In the past we have segregated a few custodial cases, and often left the young defectives, capable of education, to become juvenile delinquents, adult criminals, vagrants, prostitutes and dependent paupers. The state institution for feeble-minded must serve as the center, around which will revolve the entire machinery of the state for handling mental deficiencies. In cooperation with the public schools it must intensively train defectives capable of education, and equip them with trades so that they may live useful lives in the community. It must help to prepare special-class teachers for defective children in the public schools, and conduct mental clinics for these schools. It must also train physicians in methods of diagnosis and prognosis, who in their turn must educate the people in their community to have the right attitude toward this large and at the present time rapidly increasing social problem.

Mercier has compared the study of psychiatry to navigation. When the physician leaves the study of medicine proper to enter the study of mental diseases, he leaves the engine room of the ship for the quarter deck, and is no longer directly concerned with the efficiency of the machinery; his chief interest is to carefully observe the course which the ship is taking, to note the way in which she comports herself in wind and weather. He must study charts and tides, stars and clouds, and observe the barometer. He notices, not so much the ship herself, as her relation to the world in which she moves. The function of the psychiatrist is to study an individual in relation to the world in which he exists, and in which he must maintain his place. It is becoming more and more evident however that these two positions cannot be mutually exclusive. Though the navigator is not primarily interested in the engine, if a breakdown occurs, the ship cannot hold its course. The engineer may not be responsible directly for the course of the ship, yet if she goes upon the rocks his machinery is likely to be injured. So the human body and the human mind should not any longer be considered independently. Dr. Campbell calls our attention to the fact that:

"Many people think of a physician as a man who merely treats symptoms. To others he is one who treats diseases, discovering their nature by means of mysterious tests in a laboratory, and an occult sense of discernment. The modern physician should be thought of as a man whose business it is to treat, not symptoms, or diseases, but sick people. It is true that the physician can often relieve symptoms with appropriate drugs, and that he often is guided in treatment by laboratory tests. It is also true that in many cases even after he has x-rayed every segment of the patient, and analyzed all the juices that can be extracted from him, the physician is puzzled until he remembers that he has overlooked one factor—the patient himself. The patient is more than a group of symptoms, more than a collection of interesting secretions; he is a living individual, with a most complicated pattern of reactions, and if this is overlooked the physician may sometimes find the symptoms difficult to relieve, and the disease unintelligible."

The better understanding of mental disease and its causes and relation to physical symptoms, by the rank and file of the medical profession, is most essential for more accurate methods of diagnosis and treatment.

Such problems as those of maladjusted children and adults may be handled by visiting teachers, social psychiatric workers, or other social agencies, but there is no doubt that the family physician is the one to whom the patient most easily gives his confidence, and the reassurance and recommendations of the physician carry much more weight than those from any other source.

One of the things needed in each community and county of our state is a survey, or community diagnosis, so that we may know just what problem we have to deal with. A public well informed concerning dangers and their causes will work more intelligently and faithfully for their prevention. The public health workers enthusiastically forging ahead in their chosen field have all come to a common point of view, that each effort in a particular field depends largely upon the state of education and protection in adjacent fields. Public health as a whole, cannot be successfully accomplished by any one-sided development. From the economic point of view, and the number of people involved, mental disease constitutes a larger problem than any field so far entered by the hygiene workers.

Some progress in mental hygiene has been made in the last two decades. The psychopathic hospitals and the psychopathic wards in some of the large city hospitals have been of great value to incipient cases. A greater provision for

emergency admissions is very much needed. The voluntary admission law now existing in some states has helped to bring patients to the psychiatrists in the state hospitals in the early stage of their disease. Some states have already provided out-patient clinics in the large centers. In several states there are parole systems and social workers trained in psychiatry who keep in touch with mild cases of mental disease, and those mental defectives who can live at home under such supervision. A greater amount of time devoted to the study of psychiatry, in a few of our leading medical schools, is one of the most significant indications of future progress along this line.

Nearly one hundred years ago Horace Mann said, "The great object of the state hospital is the care of insanity or the mitigation of its sufferings. The great object of the state and of individuals should be its prevention". Although the state hospitals have made marked progress in their methods of diagnosis of mental disease there is yet very much to be accomplished by all of us in the conserving of mental health and the prevention of mental diseases.

WHY SAVE THE FIRST TEETH AND HOW*

ALICE CONGER HUNTER, D.D.S., Des Moines

My subject, Why Save the First Teeth and How, was suggested by the replies repeatedly made by mothers of young children in response to my query "How did you happen to let your child's mouth get into such a condition?"

The answers, varying slightly in form or phraseology from, "Oh, I don't know. I never looked in his mouth", or "I thought they were just baby teeth and would soon come out", or "Why, he has been attending that school for two years and the nurse never said anything about his teeth", to "I took him to a dentist who told me they were baby teeth, and there was no need for fillings as they would soon come out", all point to a pathetic ignorance as to the importance and function of the deciduous teeth.

That such a lack of appreciation on the part of mothers should exist is sad enough, but excusable to a degree not to be tolerated in one calling himself a dentist.

That there are some such in the profession we have all too definite evidence. Within the past year I have heard from their own lips the admission of some who say they do not like to work for

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children and will only do so when necessary to retain as patients the older members of a family, and we cannot doubt the veracity of a considerable number of mothers who have made an effort to have their children's teeth filled but who have met with the above excuse.

That a growing interest in the care of children's teeth is being taken by an increasing number of professionals and laymen is everywhere in evidence, but the real problem of preventive dentistry as of preventive medicine for the masses remains still unsolved.

Decayed teeth constitute the most prevalent disease known. Recent surveys made in different cities show that 97 per cent of school children have had teeth, that 98 per cent have malocclusion, that the children in the first five grades average 7 plus cavities each in their teeth. In a thorough examination of the teeth of 550 school children in the town of Stratford, Connecticut, but one child was found to have a set free from decay. Look over the reports of medical inspectors in public schools who have made but a glancing examination of the children's mouths and you will find that decayed teeth outrank all other defects combined. Dr. Marshall in forty years of practice examined many thousands of mouths and never met with but four instances of persons who had reached adult life who were free from any form of dental or oral disease, and it is not at all uncommon to find in one little mouth from three to six deciduous teeth having alveolar abscesses at their roots.

With all that this implies in the light of recent knowledge of focal infections and our "newer knowledge of nutrition", the force of trained specialists in children's dentistry and oral hygiene is wholly inadequate to cope with the situation. In truth, the task seems well nigh overwhelming.

To attempt to keep all the cavities filled in the mouths of all children of even the first five grades would be an impossible undertaking even if we had many times the number of dentists now prepared for such work. It would be a "noble charity, but an endless chain". Assuming that we could fill all the cavities and save the teeth for the time being, how are we to prevent a recurrence of decay as well as to check the flood of children having decayed teeth coming into the schools in the primary grades each year?

It has been pretty definitely demonstrated that "80 per cent of dental decay can be prevented if monthly or bi-monthly surface polishing of all the teeth with orange wood sticks and fine pumice can be systematically followed, these treatments of course to be augmented by faithful and cor-

rect use of toothbrush, floss silk and lime water as a mouth wash. (The lime water acts as a solvent for the mucin plaques.)"

In the schools of Bridgeport, Connecticut, where an intensive campaign of education in hygiene both general and oral, accompanied by systematic and frequent prophylactic treatments and the filling of all cavities in six year molars has been carried on for ten years, it has been possible to say to a child completing the fifth grade, "You cannot be promoted to the sixth grade, no matter how high your scholarship, if you have a remediable defect of eyes, ears, nose, throat, skin or teeth". For the past four years this rule has been in effect. Think what it would add to the happiness and general well being of children if such a standard of health excellence could be maintained in all of our schools!

Cavities in teeth are hot beds of infection. Scientists claiming that at least 100 different varieties of germs, many of them pathogenic in nature, may be found in any mouth. Children cough and sneeze, scattering millions of germs made virulent and active in an ideal feeding ground and in all likelihood are thus responsible for the spread of most of the contagious diseases of childhood. In fact the reports of certain schools where an intensive campaign against caries has been made shows a distinct lowering in number of cases of contagious diseases. Let me quote what has been done in one institution alone in the elimination of children's diseases:

In St. Vincent's Orphan Asylum, Boston, there are close to 350 children. In the year 1910 the matron became convinced that the bad condition of the children's mouths had much to do with their sickness. A room was furnished with a dental chair and equipment and Dr. F. A. Keyes, of Boston, was employed to put the children's mouths in a sound, sanitary condition. Work was started in November, 1910, and in April, 1911, the mouth of the last child had been put in order.

During the year 1907-08 there had been 103 cases of illness including diphtheria, mumps, scarlet fever, pneumonia, measles, tonsillitis, whooping cough, chicken-pox and croup. During the following year there were 103 cases again; in 1909-10, eighty-seven cases. During the period from November, 1910, to April, 1911, while the dental work was in progress there were fifty-two cases of illness, while from April, 1911 to April, 1912 only two illnesses of any kind appeared in the school. The following year no cases of illness occurred at all. In 1913-14 one case of diphtheria in a new child with bad teeth and six cases of measles brought by a new child, whose mouth was in bad condition, and all the children infected were in need of additional dental service.

Cleveland has made a similar demonstration in some of her public schools but their report is not

yet published and I have not their figures at hand.

So much for the teeth as a factor in the spread of infection. In the matter of focal infections I am convinced that grave danger to the health and even the lives of children lies hidden away in the putrescent pulps and alveolar abscesses whose poisons are carried through lymphatics and circulation to viciously attack some weakened if remote organ of the body.

The most apparent and obvious reason for saving the first teeth is undoubtedly that they are needed for the crushing or grinding of food, preparatory to subsequent digestive processes, but it is a fact not so well known that the very act of mastication, calling into play the large muscles which open and close the jaw exerts a tremendous force upon the bones in the side and base of the skull, thus stimulating the growth and development of the cranium or "brain case".

"If the child has decayed or sore teeth and can only chew on one side of the jaws only, the muscles on the opposite side do not work properly and their pull or tension on the cranium is greatly weakened, so that the brain case does not grow to its proper size. Of course the brain cannot develop fully if the bone around holds it back.

"Dr. Lawrence W. Baker of Boston has demonstrated upon animals what effect this lack of power to properly chew food has upon the skull, and also upon the brain. Taking a litter of four rabbits, he ground down the teeth on the right side of two of them so they could chew only on the left side. The four rabbits were then fed on the same food, living together under the same conditions. The only difference was the inability of the two rabbits to chew their food on the right side. At the end of seven months the rabbits were chloroformed and their skulls prepared for examination." All portions of the skulls of the normal rabbits were equally developed but in the others there was a distinct flattening and underdevelopment on the side of the skull where the teeth were ground. There was even a distinctly larger space for the brain on the left side than on the right as was shown by filling the skull of the normal rabbit with shot, which was later poured into the skull of the demonstrating rabbit and it was found that there was considerable shot left over after the latter was filled.

I suppose I should apologize to you professional women for the simple, untechnical language of this paper, but my purpose is not to teach you facts that you do not already know but to try to help you, in your work with children and young mothers to put the problem before them in such a way that it will demand and hold their

attention. The physician has the first opportunity to see the child. It is very unusual for the dentist to see it until the damage is done, but there should be the closest cooperation between the obstetrician, pediatrician and the dentist if the child is to receive the maximum of service from either.

In order to be brief let me state simply some of the reasons why the first or baby (deciduous) teeth should be as carefully watched and treated as any of the so-called permanent set. Baby teeth are needed as mentioned above for chewing or crushing the food until the permanent teeth arrive. If deciduous teeth decay, become abscessed or are lost before the time that they should be shed, it has a disturbing action on the growth of the jaw tissues in that locality resulting in unsymmetrical development of the bones and misshapen faces result.

The deciduous teeth serve as "pathfinders" for the permanent teeth. If lost prematurely the erupting permanent tooth loses its guide and follows the line of least resistance, often turning around in its socket; or if a fistule remains on the side of the jaw as the result of an abscess, the new tooth is very apt to come out through the fistulous opening.

The premature loss of deciduous teeth causes the jaws to shrink preventing normal growth and expansion of the arch. Normally the growing jaw causes spaces to appear between the deciduous teeth to make room for the subsequent appearance of the larger permanent ones. If, because of closed or narrowed spaces caused by decay or loss of the first teeth the permanent ones are crowded out of line, varying degrees of malocclusion and unsightliness of feature result.

Though not a deciduous tooth, the sixth year or first permanent molar should be discussed. Appearing in the mouth before any baby tooth has been lost it is usually mistaken by mothers and others for a temporary tooth. Often from one cause or another, this tooth is of faulty structure and prone to decay, so that unless recognized at once and carefully watched for the slightest appearance of decay, it is all too frequently injured beyond redemption. Hideous disfigurements of faces that would otherwise have been symmetrical have been caused by the premature loss of one or more of these teeth. Their function is two-fold, first, like a bumper on a railroad, to keep the cars on the track, especially during the exfoliation of the deciduous teeth, and second they bear most of the burden of mastication throughout life.

Now in order to save these baby teeth we must begin with the mother. There is a saying that

something cannot come out of nothing, and it is a veritable fact that without lime and phosphorous salts in their proper biological combinations, good teeth are out of the question. So, first of all, I would say, "See to it that the mother's diet is rich in foods which will supply these essentials". All of the deciduous teeth and part of the permanent set are in the jaws at birth. Someone has said that a growing child does not a more important thing physically from birth to twelve years of age than to manufacture in the jaws 4.8 good teeth. So from birth to maturity I would have the child's diet wisely chosen, containing a proper percentage of the calcium and phosphorous salts.

It is not generally known that teeth are formed from similar cells to that of the skin and that any eruption or rash of the skin is likely to affect the formation of the enamel if it occurs, during the period of enamel formation. So every precaution should be taken to prevent a child from contracting measles, chicken-pox, scarlet fever, etc., especially from birth to about fourteen years of age, during which period the enamel of fifty-two teeth is formed.

As the next means of saving the first teeth, I would have them kept clean by mother or nurse from the moment of their appearance until the child demonstrates that he can do it himself, and last, but by no means least, I would have him taken to a dentist at frequent intervals, the more frequent the better, for prophylaxis and examination. If this custom is followed all caries may be detected and removed and fillings placed in the cavities before it has progressed to the point of causing pain.

"Eternal vigilance" is the price of success in this as in other things, but I know of nothing pertaining to our physical well being which will bring more satisfactory returns on the investment made in time and study.

HONORS TO DR. BANTING

Dr. Frederick G. Banting, Toronto, has been awarded the Rosenberg Medal which is given annually by the University of Chicago to the person conferring the greatest benefit on humanity. Dr. Banting, who was awarded the medal for the discovery of insulin, has already been awarded the Nobel Prize, the John Scott Medal from the City of Philadelphia, an annual grant of \$7,500 for life from the Canadian Government, the Reeve Prize of the University of Toronto, and has been appointed to the newly created chair of research at the University of Toronto. The \$1,000,000 Banting Research Foundation has been organized in his honor.—*Journal A. M. A.*

SHEPPARD-TOWNER WORK IN IOWA*

JOSEPHINE WETMORE RUST, M.D.

Physician Sheppard-Towner Work in State of Iowa, Iowa City, Ia.

I cannot give you a more comprehensive report of the Sheppard-Towner work in Iowa, than by quoting from the last report of the director of the extension division of the State University of Iowa, under whose very efficient supervision, the work has been carried on by a staff composed of three pediatricians, four women physicians, one dental adviser, one obstetrician, six nurses, one social worker and three stenographers.

Since the division has been operating, July 1, 1922 to December 31, 1923, 10,520 children, ranging in ages from a few weeks to seven years have been examined. This examination is very thorough and is made by the pediatrician. A complete record filed at the central office in Iowa City, is kept for reference and follow up work by the division. A copy is given to the mother.

This record bears the signatures of the pediatrician, the local nurse, when there is one, under whose supervision the follow work is to be conducted, also the name of the physician, whom the mother gives as the medical adviser of the family, and to whom the child is referred for any corrective treatment needed.

The work is entirely advisory in its nature, no treatment is given by the pediatrician. Hygiene measures and diatetic corrections, if needed, are suggested. A full report of the physical findings and suggestions are made.

Since September 1, 1922, clinics have been held in seventy-nine counties, and eighteen counties are scheduled for clinics to be held before the end of the fiscal year that ends July 1. At each clinic a pediatrician, a woman physician and a nurse are present.

The results of these examinations reveals the necessity for corrections of defects during the early months of the child's life, emphasizing to the parents, the mistake in expecting that the child will out grow defects present, and the necessity for frequent examinations to detect other defects that might develop later. The defects found most frequent, in order of their occurrence are tonsils, malnutrition, adenoids and irregularity of the teeth, all practically 100 per cent correctable. Mental disorders, nervous disorders, congenital cardiac and speech defects, fall preceptably in the list of correctability. It is also interesting to note, that the defects found in the child, are the fewest under twelve months of age, sharply increasing for children, between the ages

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of two and seven years. Quoting from the report:

1. The number of defects per hundred children rises sharply through the age group, thirty-nine from children under twelve months, and 187 for children from five to seven years of age. This certainly points out the need of thorough physical examination of children during the first few years of their lives.
2. The per cent of correctability falls as the number of defects rises. In children under twelve months 96 per cent of the defects are correctable, in children from two to five years of age, only 89 per cent, correctable. That is, the child is losing chances of being rendered fit, physically, if attention is not given to his condition as early as possible.
3. Undernourishment is more correctly a condition causing physical defects rather than an actual defect. It is therefore significant that this condition is consistently present among children of all ages, since one in six children examined was found to be undernourished. It is much too early to make any deductions as to results. So far about 30 to 35 per cent of the children referred for correction of defects, have been taken to the physician for treatment. It is unnecessary to say that sympathetic response in correcting these conditions will add much to the ultimate benefit derived by the child, and cooperation from the parent in realizing the necessity for future and repeated examinations to detect in the beginning other irregularities.

Quite as important as the child welfare division of the Sheppard-Towner work, is the maternity division. The real foundation of child welfare.

The work of the woman physician is also advisory in its nature. A complete history of the mother, her health from childhood, the effect of child bearing upon her health, her appreciation of the necessity of care and supervision from her physician, during the prenatal period, at the time of delivery and post natal period is all recorded. In this conference she is urged to place herself under the care and supervision of her physician as soon as she knows that she is pregnant, giving her attendant opportunity to detect any physical irregularity through often and repeated visits, and a thorough physical examination of the whole body, emphasizing to the prospective mother the necessity of at least monthly urinalysis, blood-pressure and weight, and to the primipara or the mother who has had a difficult or instrumental full term delivery the necessity of pelvic measurements.

The mother is also urged to follow closely, all instructions as to diet, elimination, exercise, sleep, fresh air, clothing, and report at once any symptoms of toxemia, the highly advisable care in the hospital at the time of delivery, two weeks before standing on the feet, nursing the baby, (begin-

ning her preparation to nurse the baby in the beginning of pregnancy) and the very necessary post-natal pelvic examination, six to eight weeks after the baby is born. Where hospital care is out of the question, as is so often the case, the trained nurse to care for the baby and mother, to get the baby started off right is strongly urged. Only investigation reveals how many mothers have no other care than that given by the family or some neighbor. The mother is directed to consult the dentist as early as possible. In the conference the reasons for taking the care advocated are given.

While the prospective mother is the one who we are anxious to reach, any mother who brings a child to the clinic, has the privilege of the conference. Ofttimes too, the father comes and we are especially glad to see him, as this matter of better mothers and babies are quite as much his problems as it is the mothers. He is always interested and I feel that we are doing him an injustice when we do not give him the chance as we do the mother.

The maternity work shows the following results, in the way of statistics for the months, July 1, 1923 to December 31, 1923.

Private consultations with mothers.....	3,692
Private consultations with expectant mothers....	327
Consultation with others (fathers, relatives, women without children).....	572
Consultations with physicians.....	235
<hr/>	
Total Consultations.....	4,826

The obstetrician on the staff has been placed at the service of the medical profession, through the State Medical Society. He has appeared at eight district and county medical meetings for clinics and conferences, and at these conferences, 329 physicians from thirty-six counties were present. The dental adviser was added to the staff late in the fall. He will work with the State Dental Society much as the obstetrician has with the medical society. He has also spent some time working with the staff.

Much interest has been manifested by the people and parents. It is not so much a question as to how we are to get the mothers and babies, as it is of how to limit the number that can possibly be taken care of. During the summer months many fathers left the fields during the busiest season, to bring the mother and baby, and many times when it was impossible for the mother to come, the father would bring the children and quite as patiently wait his turn. Parents came miles over all kinds of roads when there was no clinic nearer. During the winter, fathers, mothers and babies, came in all kind of conveyances,

that would bring them over the almost impassible roads. Co-operation and interest upon the part of physicians, has been fine and splendid. No less the school superintendents, principals, school teachers, school boards, clubs and civic welfare activities. Special mention is due the farm bureau organizations. Their assistance was invaluable in reaching the rural population, where the work was especially emphasized, although all sized towns were served, especially where no thoroughly organized and functioning maternity and child welfare center was located. In many instances, the staff had not finished the schedule in a county, until action was begun for a return series of the clinics.

I believe that much lasting benefit will result from the Sheppard-Towner clinics, because the work is strictly educational in its scope.

Through this work we shall—

- (a) Place higher valuation upon human life.
- (b) Teach our young boys and girls, our young men and women, the fundamentals of good parenthood.
- (c) Emphasize the necessity for proper prenatal care.
- (d) Raise the practice of obstetrics, to the plane of the most exacting surgery.
- (e) Avoid many of the serious results of childbirth, that render the mother unable to properly train and discipline her children in their early childhood.

There are at present about forty of the states that have accepted the provisions of the Sheppard-Towner law, and are carrying it on in connection with an already established and functioning center, for the welfare of mothers and babies. Others have instituted an entirely new program for this new division.

We shall hope that it will not be long until we will know of a perceptible reduction in the numbers of maternal and infant deaths, and that it will not be necessary for this great United States of America, to hang its head in shame, to acknowledge that there are seventeen other countries of the world, where it is safer for our women to give birth to a baby, and only two, where it is less safe, than it is in the United States.

Statistics are usually rather uninteresting, unless we have some especial point to make or have some reason to refer to them, but to every physician who is interested in the conservation of life and prevention of deaths, the statistics given by such an authority as Dr. Louis I. Dublin, of the Metropolitan Life Insurance Company, along this very important line, will surely cause one to pause and ask, why so much destruction?

Dr. Dublin says:

1. More than seven women die from disorders of pregnancy or childbirth, out of every one thousand confinements. This is equivalent to one maternal death out of every one hundred and forty confinements, of which there were 20,000 in the year of 1920, in the United States.
2. Forty-five babies out of every one thousand births, or one out of every twenty-two, are born dead, which equals about 112,000 annually in the United States.
3. Forty babies out of every thousand born alive, die before they are one month old. About 100,000 annually in United States.

Such are the dangers to mother and infant at the present time. It is well to contrast this state of affairs, abruptly, with conditions that result amongst women, who receive prenatal and maternal care under skilled direction:

1. Only two women instead of seven die out of 1,000 births.
2. Only twelve babies instead of forty-five are still-born in every 1,000 births.
3. Only ten babies instead of forty out of every 1,000 born alive die before they are one month old.

The infant mortality rates in our own state, Iowa, for the year of 1922 was 57.8 per cent. One county alone, had an infant mortality rate of 103.7 per cent of every 1000 births. Polk county was 71.5 per cent, while Humboldt county was the lowest with 16.3 per cent.

In 1922, nearly 3,000 infants died in the first few weeks of their life; 1,000 infants were premature; 1,000 infants were malformed; besides the countless numbers that succumbed from interference with pregnancy in the very early weeks, and in many instances, leaving bad results for the mother to suffer.

The program of this work is being carried to every part of the state, and there is much for the people to do. Very little investigation reveals the fact that hospital accommodations are sadly and seriously lacking for our confinement cases. The community problem of medical service is assuming proportions that are not becoming better but rather worse, and many localities are without adequate medical attention. In the last twenty years, the number of medical schools have been reduced from one hundred and eighty to sixty, and the number of medical students from twenty-eight thousand to seventeen thousand, while the number of graduates in 1922 was only 25,029 as against 57,042 in 1904. Hand in hand goes the reduced number of nurses, and especially the county nurses. In January of this year, there were but thirty county nurses, and I am told by the state superintendent of nurses that there are still less than that now.

There is a real problem for the people who need medical service, the establishment of a well equipped county hospital, in each of our counties is not an impossibility, where there would be offered some inducement for the young graduate to locate, in place of going to the city or larger towns where hospital and laboratory facilities were provided.

A comprehensive and complete plan is under way for the establishment of prenatal and child welfare centers, also an active follow up program for all children who have been referred to their physician for the correction of defects found at the clinics, and in this follow up program, the mother is not forgotten.

PROBLEMS OF THE RURAL PRACTITIONER*

ZENELLA E. MORRIS, M.D., Stockport

Every conscientious physician has a desire to do the very best for his patient that is in his power to do. The means at the hands of the rural physician are very limited compared with his city colleague.

There are hundreds of villages with communities surrounding them such as I practice in, whose problems are very similar to mine. Our work is chiefly in the country many miles from our office. If we find an infectious disease, diphtheria for instance, which has progressed too far, we fear, the agent we need to combat our trouble we do not carry for obvious reasons. Even when we return to our office, we find to obtain this we have to send sixteen miles for it. As only county seat towns carry it, it takes much time to obtain it. And when the roads are impassable for cars and the only means is horseback, many hours are lost and many times it means the life of the patient.

Another instance that happens which gives anguish to the soul: you have a patient with threatened abortion and get a message to hurry out for there is great need of help at once. Now this is the way we could hurry this winter. This special case lived six miles in the country, the roads impassable for cars and almost so for team and buggy, but the need being so urgent, I made the attempt and it took two and one-half hours to make the trip. On arriving at this home I found the woman blanched from hemorrhage, cold and frightened. No time to do more than wash hands, soak them in alcohol and relieve this woman by

clearing the uterus and cleaning her up. She lived and developed no sepsis, as there was extreme danger of doing. These cases are not exceptional but instances such as these could be repeated over and over.

The microscope is needed in many cases to verify diagnosis. The rural physician has but little time to do such work and to send specimens to the state laboratory requires five days to get returns. Thus you may see how little good in an ordinary case it would do to wait on the findings. Of course, we can get such work done nearer home but it costs money, and often patients are not able to pay for this extra expense and very often not even the ordinary physician's fee. We have a certain amount of surgery to do also. This is not undertaken in very serious injuries. But take fractures which no one wants to rely on their manipulative and inspective skill, but want an x-ray of such an injury. It is sixteen miles to the nearest reliable x-ray instrument, but it is necessary to have the picture so the patient is taken, if possible, but that means suffering and time lost also for the physician. It is almost impossible for the rural medical practitioner to have office hours, or to be at all regular in keeping them. Their calls are many miles from home and perhaps several have to be made in the same neighborhood, which is always the case in an unusual sickness season. The telephone has been a great help in solving night calls. Years ago a country doctor had little chance for sleep, but now we can get a pretty clear idea of some cases and a little advice given, the night calls can be postponed until morning many times and without danger of mistake or injustice to the patient.

People, too, are becoming more enlightened than they used to be, and pay more attention to health problems and hygiene, which has a great bearing on the necessity of night calls. No part of our work saps the buoyancy and keenness so much as night work. Loss of sleep means lowered vitality and makes the physician old before his time.

Meeting all classes of cases from scabies to gall-stones, the country physician needs much coaching in all lines but the facilities, such as clinics and health meetings are not available, only a few times a year. Our county society meets only four times a year and often it is impossible to attend if cars cannot run.

The good roads problem, when solved, will eliminate this to a great extent. It means much to a physician to meet the minds of others and discuss the problems that are met from day to day. We attend all the meetings in our reach but many times it is impossible to leave our work—

*Read before the State Society of Iowa Medical Women, Des Moines, Iowa, May 6, 1924.

an obstetric case bobs up at the exact time you wish to start or some one has pneumonia and you feel your duty is to your patient this time.

I could enumerate instance after instance where the rural physician has less chance to keep from getting in a rut but believe I have given enough to make my points clear.

Although the problems mentioned are heart breaking at times, there are compensations. If there were not, no one would try to practice in the country. The very need for a physician gives courage and ambition to do our best in communities such as I have described. There are very few physicians when meeting these problems but look forward to a time when they, too, may move to a city and have ideal conditions. They stay on from year to year, time passing, but their work being so necessary no end ever comes. They become implanted in the community; they watch with intense interest the young people grow up from infancy to become useful citizens; they take part in all the activities their work allows, until the first thing they realize their big work is ended, the hope for a change of location to larger work is gone. They have given their best years to service.

No regrets should follow. They have done their work well, according to their light. But soon they (the rural practitioner) will be history, the same as we speak of "The old country doctor of pioneer days". May he be revered and loved and leave a tender feeling in his community, such as our old doctor left.

FACTORS OF SAFETY IN PROSTATIC SURGERY*

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The merit of a therapeutic measure, be it medical or surgical, is based on mortality rate and ultimate results. In general, if a curative procedure carries a mortality rate in excess of the percentage of ultimate good results, it possesses little to justify its continued use. The justification of a catheter life for men with prostatic obstruction existed a generation ago, because of the high mortality rate attending the operation of prostatectomy. However, with the evolution in the methods of treatment of prostatic obstruction, the mortality rate has been reduced to a minimum, and excellent results have been achieved, so that at the present time, except under the unusual circumstances of infirmity, cardiac decompensation,

or insanity, a catheter life is not to be recommended over the standardized methods of treating prostatic obstruction. The study of the cause of death, the advent of renal functional tests, the electrocardiograph, preoperative treatment, and the standardization of surgical procedures, have all contributed to the safety of the operation of prostatectomy and its ultimate good results.

The hazards of prostatic surgery have been inherent in the age of the patient and the organic disturbances of that age, exaggerated by the direct results of prostatic obstruction. Hypertrophy of the prostate gland requiring surgical intervention is seldom seen under the age of fifty years; 95 per cent of the patients are more than fifty years; 83 per cent are between fifty-one and seventy years, an age in which there is almost invariably some degree of organic cardiorenal and vascular disturbance. On this basis alone, such patients must be regarded as substandard risks, and when the direct results of prostatic obstruction are associated, the most careful management is demanded to attain the best results.

In order of importance and frequency, uremia, hemorrhage, pneumonia, and general sepsis, have been the usual causes of death following the operation of prostatectomy. The lowered death rate of the operation has been the result of direct efforts toward their elimination. Removal of the prostate immediately, in the presence of chronic distention of the bladder and resultant chronic uremia, is followed by acute uremia and death. The realization of the renal disturbance arising from prostatic obstruction and the resulting back pressure on the kidneys, developed through the application of the renal functional tests, and led to a more careful study of the patient and the institution of treatment preliminary to operation, placing a most serious surgical procedure on a solid foundation, and obviating the most common cause of death.

Because of the age of the patients, the associated cardiorenal and vascular disturbances, and the pathologic conditions secondary to prostatic obstruction, every safeguard is necessary. Preliminary treatment, accurate surgical procedure, and careful postoperative management, are requisites to the successful conduct in cases of prostatic obstruction. Of these, the first is most important.

PRELIMINARY TREATMENT

The uniformly high mortality rate in the early years of prostatic surgery, a result of performing prostatectomy in the presence of chronic retention and renal insufficiency, led to the two-stage operation of suprapubic cystostomy pre-

*Read before the St. Luke's Hospital Staff, Davenport, Iowa, May 20, 1924.

liminary to prostatectomy, with marked reduction in the death rate, establishing definitely the value of drainage of the bladder in the presence of retention. Approximately 70 per cent of the patients at the Mayo Clinic operated on for prostatic obstruction have had residual urine varying from an ounce to the entire capacity of the bladder. On the basis that little renal insufficiency supervenes in the presence of but two or three ounces of residual urine, the bladder has been drained in those patients with more than that amount of residual urine. As the amount of residual urine and back pressure on the kidneys increases, renal insufficiency occurs. The method of instituting drainage of the bladder, except in the presence of associated lesions, that is, stones or large diverticula, is a personal matter, dependent on the choice of a one or two-stage operation. However, drainage by urethral catheter or suprapubically, preliminary to prostatectomy, is the most important feature in the preliminary management. Such drainage, in the presence of chronic retention and renal insufficiency, is not unaccompanied by danger. Bugbee and others have cautioned against the rapid emptying of the bladder. Von Zwallenberg, recognizing this danger, described the so-called method of gradual decompression of the overdistended bladder, obviating the precipitation of acute uremia so common in the past after sudden withdrawal. This method has proved of much value as a preliminary step to suprapubic cystostomy, by those who prefer the two-stage operation. Suprapubic cystostomy preliminary to prostatectomy has not, in the past, been devoid of danger when conducted in the presence of overdistention and chronic uremia. Death from uremia or other cause after preliminary cystostomy, is as much a failure in the successful management of prostatic obstruction, as death from the prostatectomy itself, and should always be included in the mortality rate of the operation; for whether death occurs following the first or second stage of the operation, the result is the same so far as the patient is concerned. Experience has shown that patients surviving the preliminary operation and recovering from uremia will pass through the second stage, (removal of the prostate), with an exceedingly low mortality rate. The length of time that drainage and treatment are required preliminary to prostatectomy is dependent on the renal insufficiency and general condition of the patient. Obviously, patients with little or moderate renal disturbance, will require a shorter time than those with well established damage. In cases of long standing retention and marked renal insufficiency, the return to a position of relative opera-

tive safety is slow, sometimes many months, although usually a few weeks. Stability of renal functional tests and the general condition of patients, are most important criteria of safety.

Drainage of the bladder by urethral catheter or cystostomy, is usually followed by a temporary period of depression, that is, loss of appetite and general strength, and reduction of renal function. Few patients are entirely safe for prostatectomy after but one week of drainage. Prostatectomy, except under unusual conditions, is accompanied by more than the ordinary risk if the results of the renal functional tests have not become stabilized within, or approaching normal limits. By the phenolsulphonaphthalein method there should be a return of not less than 20 per cent of the dye, and the blood urea should not be under 50 mg. for each 100 c.c. of blood.

Experience has shown that the early operation, other things being equal, is accompanied by less risk than one undertaken after the development of irreparable renal damage and marked renal insufficiency.

SURGICAL TREATMENT

The choice of an anesthetic is a most important factor in the safety of prostatectomy. Ether, in the past, has been the universal anesthetic and has been a factor in the mortality rate in all fields of surgery. However, its greatest hazard is in cardiorenal lesions. Because of the depressant effect on the kidneys, it became a principle in prostatic surgery to remove the prostate as quickly as possible in order to minimize the period of anesthesia. This sacrificed accuracy in the conduct of the operation for speed, and often resulted in incomplete removal of the gland and little attempt at hemostasis, thus jeopardizing the life of the patient and the ultimate functional result. The importance of a short period of anesthesia has become minor since the institution of preoperative treatment, which has been more constructive than the anesthetic was destructive. Preliminary treatment has been so effective in reducing the death rate that not until recently did the type of anesthesia again become a subject for consideration in still further attempts to minimize the mortality rate. That a general anesthetic still affects the mortality rate is without question, for since the institution of local and regional anesthesia, inhalation pneumonia has practically disappeared as a cause of death after prostatectomy. Local and regional anesthetics have not entirely eliminated pneumonia, for pneumonia, embolic in origin, is still an occasional postoperative complication; but their use has aided materially in reducing postoperative pulmonary and cardiorenal complications.

Spinal anesthesia for prostatic surgery has been extensively used in certain hospitals and clinics with excellent results, and without mortality directly attributable to the anesthetic, although deaths have occurred. Such anesthesia is usually accompanied by complete relaxation, and the disadvantages of general anesthesia are entirely obviated. However, the marked drop in blood-pressure, at times to an alarming point, does not allow such anesthesia to be classified as safe. In the Mayo Clinic spinal anesthesia has been used in 187 prostatectomies, but has been entirely displaced by combined sacral and abdominal infiltration, which to January 1, 1924, has been used in 270 prostatectomies. It usually produces complete anesthesia and relaxation, and is accompanied by little change in blood-pressure. It has proved a most satisfactory anesthetic in prostatic surgery, being entirely devoid of dangerous factors. During 1923, this type of anesthesia was used in the Clinic in 95 per cent of the prostatectomies.

The suprapubic and perineal methods of prostatectomy each have their advocates, and in the hands of those skilled in the respective methods, after thorough preliminary treatment of the patient, there is little preference from the standpoint of factors of safety. With the suprapubic route the choice of the one or two-stage operation in the majority of instances is a personal matter. Many advocate a two-stage operation, and a few the opposite extreme of a one-stage operation in all cases. I prefer an intermediate position, selecting the cases that are satisfactory risks for a one-stage operation. Because of intolerance to urethral catheter preparation, marked cardiorenal damage, obesity, and associated lesions of the bladder, such as large diverticula and stones, not all patients may be safely operated on by the one-stage procedure; neither is it necessary for safety to do a two-stage operation routinely.

Experience has shown that prostatectomy performed as a one-stage operation with the removal of associated lesions, stones or diverticula, subjects the patient to a greater risk than the divided operation. About 7 per cent of patients are intolerant of urethral drainage of the bladder preliminary to prostatectomy and they, likewise, are more safely cared for by the two-stage operation.

The diminished mortality rate following the two-stage operation, because death, if it occurs, usually follows the preliminary cystostomy, has commended the two-stage operation, and led to its general adoption. However, it possesses the disadvantage of inaccuracy in the conduct of the second stage. A recent cystostomy forbids the wide exposure possible with the one-stage operation, and

necessitates blind enucleation of the gland, which at times results in incomplete removal of the obstructing gland or failure to control the bleeding accurately. In the Mayo Clinic during 1923, 81 per cent of 202 prostatectomies were performed in one stage, with a mortality rate of 3.4 per cent for the entire series.

A most important factor of safety in the operation of prostatectomy is the control of bleeding. True, the operation has been done by men employing none of the methods of hemostasis after enucleation of the gland, but such surgeons have not reported the lowest mortality rates, nor can it be said that they surrounded the patient with every factor of safety. Hemostatic sutures at the neck of the bladder, and the introduction of gauze pack or the Pilcher bag into the prostatic capsule afford means of absolute hemostasis. The evolution of prostatic surgery has carried it well beyond the stage where speed was the prime consideration, and demands accurate application of the general principles of surgery, as afforded in the one stage operation, to ensure a low mortality rate and the best functional results. It is no longer to be expected that a patient's urine will contain blood for days after prostatectomy. In surgery of the prostate, the application of the general principles of hemostasis, as applied elsewhere in the body, is equally effective. The mortality rate in prostatic surgery bears a direct relationship to the loss of blood.

POSTOPERATIVE MANAGEMENT

The fact is recognized that all patients with prostatic obstruction and resultant residual urine and renal insufficiency are in a state of uremia or potentially so, and the treatment of this condition has eliminated many of the obstacles to a safe and uneventful convalescence from prostatectomy, accurately conducted. However, the patient, because of his age and the associated organic disturbances of that age, exaggerated by the direct results of prostatic obstruction and the operation, demands most careful nursing. To surround him with every safeguard, a special nurse should be in attendance during the first few days after operation. The care of the patient is first directed to elimination. During the treatment preliminary to prostatectomy, his fluid intake has been forced, to increase elimination and this regime is maintained postoperatively. At least 3,000 c.c. of fluids are taken daily, by mouth if possible, but supplemented subcutaneously if necessary. If elimination is not adequate, it is aided by hot packs. Postoperative uremia is seldom of disquieting significance when preoperative treatment has been sufficiently prolonged to

stabilize the renal functional tests before operation. Pulmonary complications have been almost entirely eliminated by the discontinuation of general anesthesia. However, attention is directed to the prevention of such complication by posture; the patient is up in a chair, in most instances, in forty-eight hours. Robertson has recently called attention to prolonged inactivity of patients in bed as a cause of pulmonary embolism, and to forestall such an accident has advocated active and passive motion and massage.

Secondary hemorrhage, formerly a common post-operative complication, has become rare since the application of methods of hemostasis in prostatic surgery. In its treatment, the removal of all drainage tubes, the usual cause, is the most efficacious. Occasionally blood transfusion is necessary. To avoid secondary hemorrhage, the bladder should not be irrigated.

The injudicious use of the urethral catheter is a most dangerous procedure after prostatectomy unless the catheter is left in at the time of operation, or drawn into the bladder with the removal of the Pilcher bag. To attempt to control suprapubic urinary drainage by indiscriminate passage of a urethral catheter within several days after operation is to precipitate bleeding or to disseminate generalized infection from a traumatized infected prostatic capsule, and its passage is inadvisable at any time postoperatively. Needless to say, the status of the cardiovascular system is determined preceding operation and such therapeutic measures as are indicated, are continued postoperatively.

SUMMARY

Uremia, pneumonia, hemorrhage, and general sepsis have been responsible for the high mortality rate in prostatic surgery in the past. The careful preoperative preparation, and the treatment of the actual or potential uremia, the use of local anesthesia, and the accurately visualized conduct of the operation have decreased the mortality rate to a minimum, forestalled postoperative complications, and insured excellent functional results.

HEALTH EDUCATIONAL WORK

It is interesting to know that for the fifth time in five years, that Iowa schools are leaders in health educational work in the United States. In the national inter-school contest in the modern health crusade work for the first half of the present school year, Iowa won four of the eleven first prize banners. Two hundred and sixty-eight prize pennants have been awarded to Iowa schools for excellence in practical health work, nearly half the total number awarded.

THE PREPARATION OF PROSTATICS FOR OPERATION*

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In order to lower the mortality following operations for removal of the prostate and to secure more satisfactory results in those who survive the operation, we have found that it is indispensable to "make haste slowly". Patience and vigilance are the keynotes of success. The more carefully the patient has been prepared, the better are his chances, both immediate and ultimate.

You will see these cases under one of two conditions: either as emergencies where the bladder is greatly distended (acute retention); or you are consulted on account of increased frequency of urination due to prostatic enlargement and resulting in more or less chronic retention of urine. You will be able to understand both of these clinical pictures better if the underlying pathology is briefly outlined.

The term hypertrophy is incorrectly used in connection with enlargement of the prostate as it is found in elderly individuals. In nearly every instance such an increase in size is due to an adenomatous proliferation of glands at the neck of the bladder which push the embryonic prostate aside so that the latter forms the so-called false capsule as found at operation.

There are two principal types of adenoma of the prostate. In one, the intravesical, the enlargement is chiefly into the bladder lumen. In the other, the subvesical or periurethral, the enlargement surrounds—more or less completely—the prostatic urethra without protruding into the bladder lumen, or at least only raising the trigone or floor of the viscus. This will enable you to understand why, at times, a soft catheter with a special sharp bend near its tip (*coude*) is required to empty the bladder in some cases, while in others an ordinary soft rubber catheter, without any special bend or elbow, suffices.

The first effect of any obstruction at the neck of the bladder is upon that viscus itself, and secondarily upon the ureters and kidneys. The bladder walls become thickened (muscular hypertrophy) at first, just as the heart walls do to overcome a narrowed valve. Later, the walls of the bladder are found to be thinner and less able to expel the urine because of the dilatation incident to the atony of the muscular layers. These two stages are complicated by the formation of diverticula, i. e., herniation of the bladder wall into the perivesical tissues. These pockets

*Read at the June 19, 1924, meeting of the Des Moines Valley Medical Association, and illustrated by lantern slides.

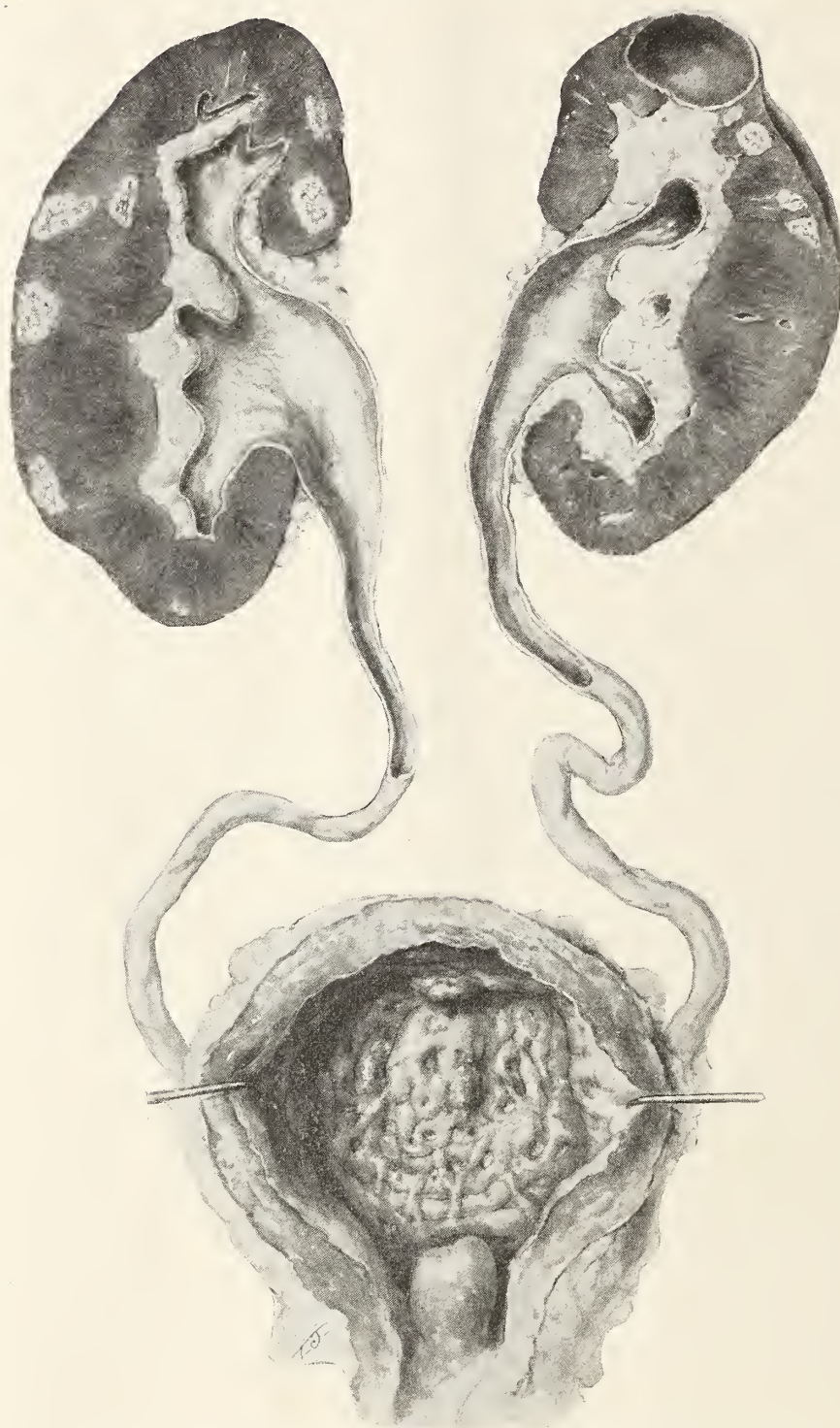


FIGURE 1. Autopsy specimen of effects of prostatic enlargement on bladder and upper urinary tract. Note how enlarged prostate blocks bladder neck. Also observe the trabeculization due to hypertrophy of bladder muscles. The ureters and renal pelvis are greatly dilated. The parenchyma of the kidney is studded with miliary abscesses, as the result of an ascending infection. (See text of paper.)

may be so small as to play an unimportant part in the case, or may attain such a size that the removal of the prostate alone will be only partially successful, because there is still retention of urine in these large secondary pockets, or "secondary bladders". (Figures 2, 4 and 5.)

It is pretty generally accepted that the degree of damage to the bladder is not directly related

to the size or form (intravesical or subvesical) of the adenomatous prostate, but rather to the degree of narrowing of the bladder neck itself. A fibrous contracture of the latter, even with a relatively small middle lobe, alone can be as serious a matter for the patient as a huge prostate.

The most difficult cases, both from the standpoint of operative technique and that of prog-

nosis, are those in which the prostatic urethra (and with it the bladder neck) is completely enveloped in a collar-like manner by a tumor in which the fibrous elements predominate over the adenomatous.

The urine which the patient is unable to void and is thus retained in the bladder is called the "residual" urine. This may become infected, even when a patient has never been catheterized. In the majority of cases, however, the patient's fate is often pronounced when he catheterizes himself, or the bladder is emptied by some physician who does not understand how easy it is to infect a bladder in which there is more or less residual urine constantly present.

I have attempted, so far, to give you a birdseye view of the lower urinary tract changes. Now let me do the same for the upper portion, and show how retention of waste products in the blood stream and tissues results. In this manner, you will be better able to interpret the clinical pictures presented by the patient with acute or chronic retention, and understand why "haste makes waste": i. e., incomplete preparation of such individuals cannot fail to result disastrously.

The ureters undergo the same changes as does the bladder wall, the end stage being dilatation with inability to propel the column of urine for-

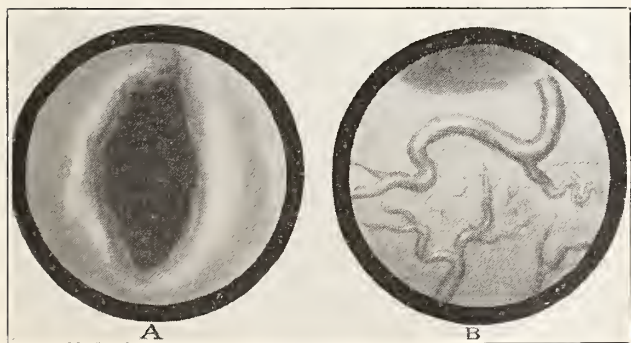


FIGURE 2. A. Opening of a diverticulum of bladder as seen during cystoscopic examination. B. Varicosities of bladder mucosa. When located over prostate may be source of severe bleeding.

ward as it ought to be. Another sequel of this back pressure is known as ureteral reflux. This means that when the bladder contracts it forces the urine back into the ureter because the sphincter at the uretero-vesical junction has become incompetent. Let us continue to follow in an upward direction, the changes to which a bladder neck obstruction can give rise. (See figure 1.)

The renal pelvis and its calyces feel the effects of the back pressure as much as the ureter does and soon become dilated and crowd the kidney tissue aside, thus greatly interfering with its function. It is this compression of the renal parenchyma, with or without accompanying in-

fection, that plays the most important part in the prognosis. One must not overlook, clinically, however, the fact that a chronic interstitial nephritis may coexist with the above described back pressure effects.

I have laid such stress upon the sequelae of bladder neck obstruction, whether it be due to prostatic adenoma, a median bar, or a simple con-

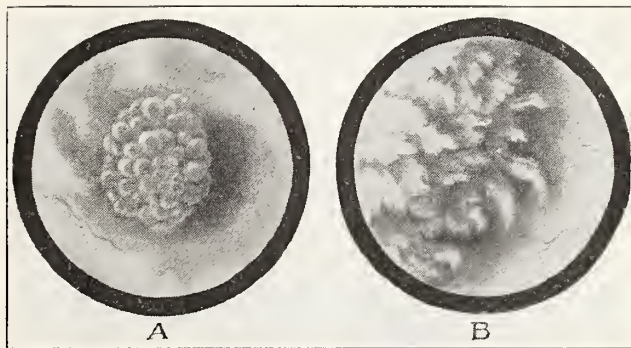


FIGURE 3. A. Appearance of a benign tumor (papilloma) as seen through cystoscope. B. Appearance of one of most common malignant tumors (papillary carcinoma undergoing necrosis) as seen through cystoscope.

tracture, because it will help you understand why the renal insufficiency permits accumulation of waste products in the blood and extrarenal tissues, and gives rise to the clinical pictures with which you are all familiar. The milder forms of uremia and urinary sepsis present the symptoms of dry tongue and skin, apathy, fever (with or without chills), scanty output of urine, hiccough and anorexia or even nausea. In some cases there is an increased output of clear urine with very low urea content. In many respects these last named cases of polyuria are more undesirable, from an operative standpoint, than are those with scanty output, because the polyuria signifies interstitial changes which are less amenable to treatment than those due to back pressure with or without infection.

We can form an estimate of the degree of renal insufficiency in two ways: (a) from the severity of the clinical symptoms just outlined, and (b) by certain laboratory methods such as chemical examination of the blood, estimation of the excretion of dyes, such as phthalein and indigocarmin, and by the administration of urea by mouth.

Now after this preliminary discussion of the results of bladder neck obstruction, let us see how we can profit by the knowledge thus obtained, in preparing such patients for operation. We will first consider:

1. *Emergency cases*; i. e., of acute retention. You are called to see an elderly man whose ability to urinate has suddenly failed. He may or may not have had warning of impending trouble

in the shape of increased frequency accompanied by difficulty in emptying the bladder, which is the clinical picture known as chronic retention. We find the bladder in these acute cases distended to a variable degree, often to the umbilicus. Your first duty is to evacuate the bladder gradually, because if this is done suddenly it may result in such a severe degree of congestion of the kidneys as to cause complete cessation of secretion and symptoms of uremia. Always have ready—soft rubber, wax (hard), and silver catheters with the coude tip such as is required for prostatics. If the patient can be brought to a hospital some form of decompression apparatus, such as has recently been modified by Bumpus, is ideal for gradually emptying the bladder. If this is not at your disposal, simply fasten the catheter to the penis with adhesive plaster and attach a pinchcock, such as is employed to regulate the flow of a Carrel-Dakin or a Murphy drip apparatus. This can be regulated so that about two to three ounces of urine can escape every hour.

It is better to take a week to empty the acutely distended bladder than to do so in an hour. This gradual evacuation of the urine (called decompression) will permit the damaged upper urinary tract to adjust itself to the decrease in the back pressure and afford relief from the constant absorption of bacterial toxins which are under pressure in the renal pelvis and parenchyma.

After the acute symptoms (incident to the blood and tissue retention of waste products and toxins), have lessened, and the bladder has been emptied, I prefer to leave the inlying catheter in situ and prepare the patient for a one-step operation, either suprapubic or perineal. The former is to be preferred for cases with much intravesical protrusion, while the perineal is the ideal route for the hard, fibrous, and the subvesical prostates.

During the period of preparation, urinary antiseptics, aided by acid phosphate, are given, supplemented by instillation twice daily of one ounce of 1 per cent mercurochrome, or irrigation with 1-2000 mercoxyl, or 1-5000 nitrate of silver, or 1-8000 acroflavine.

If the patient will not tolerate the inlying (i. e. permanent) catheter, or the bladder is filled with blood clots, we are forced to do a suprapubic cystostomy under local anesthesia, continuing, however, to use the same method of preparation as was just outlined.

You must never overlook the fact that an acute retention may be due to other causes in elderly men: viz., tabes, prostatic abscess, or

stricture. Any of these may complicate a true adenomatous enlargement of the prostate.

2. The second group of cases are those of election. This includes the patients who have tided over an acute retention and those with chronic retention.

These cases are seen either (a) with a clear urine, or (b) with much pus and often blood in the urine. The clinical picture is more or less similar under both conditions. The local symptoms vary greatly. In many cases there are few, if any, findings, except those referable to the blad-

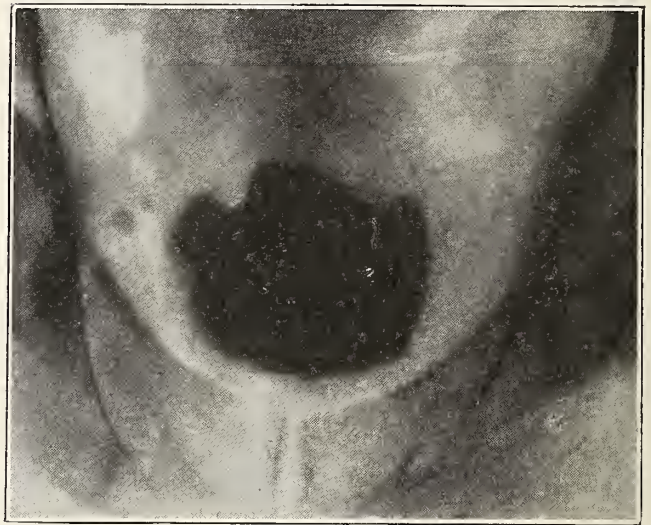


FIGURE 4. View of bladder partly filled with solution opaque to x-ray. Note the diverticula on right and left lateral walls respectively (own case).

der. In others, there is evidence of retention and urosepsis in the form of high blood urea and creatinin, low phthalein output, fever—with or without accompanying chills, dry tongue and skin, apathy, rapid pulse, and at times symptoms of incipient uremia such as nausea, vomiting, delirium, and hiccough.

These more severe cases require the same treatment as those of acute retention, until they are ready for operation, and he who hurries will have ample cause to regret.

In cases where the above more serious condition is absent, one can proceed at once to the examination which I believe should precede every prostatectomy. If the severe symptoms just described are present, one must be patient until the urine is clear and the systemic (clinical) condition permits of the following study:

1. Rectal palpation of size and consistency of the prostate and seminal vesicles, so as to eliminate the possible association of a cancer with the benign adenomatous enlargement.

2. Examination of the urethra with wax bulbous bougies, for a stricture.

3. Urethrocystoscopy to determine the type

of prostatic enlargement, the presence of calculi, neoplasms and diverticula. (Figures 2 and 3.)

I am fully conscious of the opposition to more or less routine cystoscopy in prostatics, but have failed to observe ill effects if one does it at the proper time and with a small-calibred cystoscope. Nothing is more unsatisfactory than to find, at operation, that a tumor of the bladder coexists, or that the urine fails to clear up because one or more large diverticula have been overlooked.

4. If the openings of diverticula are found, I invariably complete the examination by injecting

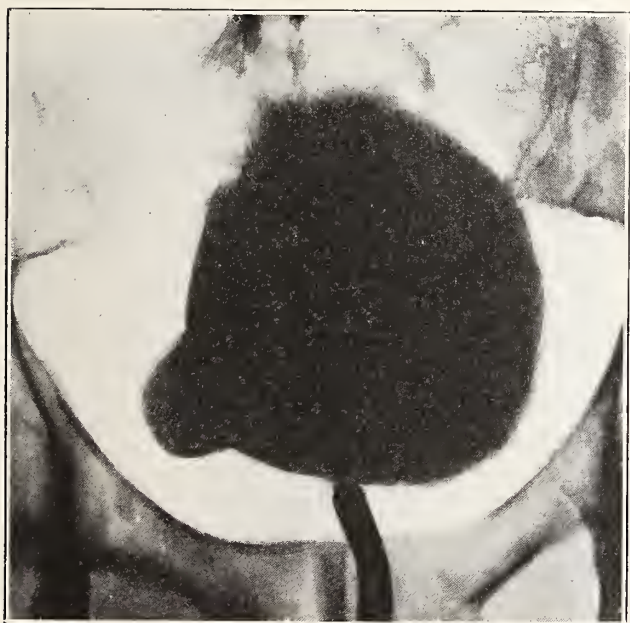


FIGURE 5. Anterior posterior view of bladder filled with solution (12½% sod. iodide) opaque to x-ray. Note diverticulum on right lateral wall. (Dr. F. M. Phifer's case.)

some opaque medium into the bladder, in order to ascertain the size and location of such pouches, which must be excised either before the prostate is removed or at the same sitting. The cystogram, or x-ray film of the bladder filled with the opaque contrast fluid, will also tell us whether a so-called reflux is present: i. e., the bladder contents flow back into the ureter because the sphincter mechanism at the ureterovesical junction is incompetent.

5. Chemical examination of the blood. Of greatest value to the urologist is the knowledge of the degree of retention in the blood, of urea and creatinin. When these are above 50 mg. and 30 mg. per 100 c.c. respectively, operation is a far greater risk than when the percentage is nearer normal.

6. Determination of the functional capacity of the kidneys with phthalein or indigocarmin. A patient with poor excretion of these dyes is a bad operative risk. The clinical condition will

improve step by step as the dye excretion rises and the blood urea and creatinin fall. One should never operate until these have approached approximately normal figures as also indicated by improvement of the patient's general condition.

7. General examination as to high blood-pressure, cardiac condition, spinal cord lesions, (which could cause urinary retention) or diabetes as a complication.

The local and general examination having been completed, we proceed to prepare the patient for operation. If he can tolerate an inlying catheter (the majority do so), or there is no complication, such as a vesical calculus or neoplasm present, I never employ suprapubic drainage because a one-step prostatectomy is to be preferred for many reasons.

Urinary antiseptic solutions are injected into the bladder twice daily through the inlying catheter. The latter is changed at least once a week and used until the urine is clear, the blood urea and creatinin nearly normal and the general condition satisfactory. In patients with badly infected urine and in whom an epididymitis is to be feared, I do a bilateral ligation of the vas deferens under local anesthesia as early as possible. The sexual function is not disturbed after such a vasectomy, and when one considers the frequency (20 per cent) of epididymitis in prostatics and its severity, such a preliminary ligation is justifiable. At Marion's Clinic in Paris it is a routine procedure in prostatics.

Removal of large bladder diverticula is always performed several weeks before the prostatectomy.

In closing let me again urge you to "make haste slowly" both in the treatment of cases of acute retention and in that of the chronic retention cases. Our immediate and end results will be far better if we examine and prepare our patients more thoroughly.

A NEW CHAIR AT JEFFERSON MEDICAL COLLEGE

In recognition of the far reaching developments of bronchoscopy in the diagnosis and treatment of diseases of the lungs and of esophagoscopy and gastroscopy in the diagnosis and treatment of diseases of the esophagus and stomach, the board of trustees and faculty of the Jefferson Medical College have created a new chair to be known as the department of bronchoscopy and esophagoscopy. Dr. Chevalier Jackson, formerly professor of laryngology in the Jefferson, has been elected to the professorship of the new department. Dr. Fielding O. Lewis has been elected to fill the chair of laryngology vacated by Dr. Jackson. William Potter, President.

TUMORS OF THE BREAST*

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In correlating my material for this paper I have collected from my card index all operations upon the breast except those for mastitis, either chronic or suppurative, during the period from January 11, 1905 to and including August 15, 1923, about eighteen years, and find recorded in the index 539 cases. There were also in this series twenty-two carcinoma recurrence operations, which were in part mine and the remainder patients of others, one of these being operated upon four times in the scar and remote areas. Of the operated cases 315 were carcinoma—one of the entire number being a well advanced bilateral manifestation. There were 141 cystadenoma, of which about 117 were unilateral and 24 bilateral; sarcoma, 2; tuberculosis, 2; lipoma, 4; aberrant breast, axillary, 3; one of which was carcinomatous; one sebaceous cyst of good size; one hemorrhagic cystadenoma; adeno-fibromata and fibro-cystadenoma, 27; and peri-and intracanalicular fibroma, 38; of these latter in all 65, (including intracanalicular cystadenoma and intracanalicular papilloma, etc.)

It will be observed in the figures that about 60 per cent of all the cases selected for operation were carcinoma. The operated cases do not represent by far the patients seen with cystadenomatous, etc., degeneration of such slight degrees as to be considered non-operative. Neither does the large number of cystadenomatous breasts operated upon represent an evidence of operative furor in this class of pathology, but they were in all instances patients with this type of degeneration so far advanced as to demand operative relief. Numbers of them had had single cyst operations done on various occasions, one in particular asking for radical relief after five individual operations had been done by various operators, each operation being guaranteed as being the last of her trouble.

It has been my experience to see but two tuberculous tumors and two sarcomata in this period of time and one aberrant breast undergoing malignancy, which finally required a re-operation including the previously normal breast.

There are four instances in the carcinomata in which the second breast was invaded. One of these patients was inflicted with the second growth so remotely placed from the chain of lym-

phaticas as to lead me to consider the tumor of primary origin, equal to that of the first breast. There was one bilateral carcinomatous involvement almost equal in both breasts. The case is so interesting as to deserve recording.

C. M., forty-seven, single. Admitted to the hospital March 17, 1921; discharged March 28, 1921. Chief complaint, tumors of the breasts, duration seven months. Family history, negative; past history, no operation, no previous illness. Personal history, menopause two years ago, some slight spotting since. Present trouble, seven months, no pain; no discharge from nipple; no loss in weight. Physical examination, negative. Surgical condition; definite asymmetry of the two breasts. The left presents a flattened out and retracted nipple. The entire breast is hard, rubber-like in consistency. It moves as a whole on the chest. There is a large hard gland in the axilla, freely movable and smooth. Right breast; very hard, especially about the nipple; no retraction of the nipple, but the skin retracted in other areas and very adherent to the underlying tissues. Few very small hard nodes in the axilla. Operation; bilateral Stewart incision; result; primary union. Pathological report: bilateral schirrhous carcinoma, metastasis to lymph glands.

The peri-canalicular and intracanalicular tumors were seen in the female, usually from seventeen to thirty-five. The cysto-papillomata, of which quite a few were recorded, were easily diagnosed at the first visit by the characteristic discharge from the nipple. In the non-recorded cases of mastitis, I am quite satisfied that three recently operated upon were fat necrosis cases of the type described by Burton Lee. In neither of these did I remove more than the areas involved.

As to the question of bilateral involvement being primary or of the second breast being invaded through lymphatic conveyance, one is unable to decide, but I am rather fixed in my opinion as to the two of the patients specially cited. In the instance of the patient with the immediate bilateral involvements I am inclined to believe after very careful examination and cross examination that the breasts were simultaneously invaded by primary growths, or almost so; at least I feel that neither growth was a metastasis from the other.

In a patient with involvement of the remaining breast four years after the removal of the absent breast, the zone occupied, the discreet type of tumor, absence of any infiltrating process from the removed side and the absence of evidence by x-ray of any other metastases, lead me to a positive conclusion that involvement of the remaining breast was as much of a primary growth as the tumor in the removed breast. Unless we can definitely trace the metastatic chain across the

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breast, such instances as the one just cited should be classed as primary and not as metastatic.

In this series of patients but three were in the male—one a recurrence and two primaries. I have previously reported—see Dennis; System of Surgery—three male patients with tumors of the breast.

DIAGNOSIS OF MALIGNANCY

The most frequent reason, barring the presence of a tumor, that patients advance for suspecting malignancy is pain. It is most gratifying to be able to tell these worried callers that malignancies of the breast never begin with pain; that when pain is a symptom of cancer it requires no expert to diagnose the conditions and that the pain in these patients is due to compression involvement of the nerve filaments, infiltration, or a large tumor, or exposed nerve filaments in an ulcerating tumor. As a rule, malignancy of the breast is a single tumor, as compared with multiple tumors in cystadenoma, fibroma, etc., although one occasionally sees a malignancy present with a well defined multi-tumor not of the cystic variety. Recently I have removed a carcinomatous breast with two distinct nodules, four inches apart. The bilateral breast tumors are most frequently the cystadenomata and fibromata.

No better diagnostic objective evidence is known than the dimpling of the skin when the breast is grasped, as compared with the full rounded convexity of the normal breast when compressed between the examining fingers. This dimpling sign of malignancy is obtained very early. By lifting the breast from below, or by compressing it between two or more fingers, the dimpling will readily follow, while in the non-involved breast, the convexity will remain or be exaggerated. This dimpling can also be seen without difficulty either by direct or by oblique inspection, and by feeling carefully over the dimple one obtains with the palpating hand the sense of hardening or tumor. In patients with more advanced, or in patients with a more disseminated growth, the classical orange peel skin is seen. The elevation, of the breast affected, above the plans of the other, due to the lifting effect of the involved tissues, is seen in more advanced conditions. Strongly abducting the arm from the side, thereby making the skin and pectoralis major tense, will often bring the tumor into bold relief. Compression of the breast upon the chest wall either with the patient prone or in erect posture is an excellent means for detecting irregularities.

Retraction of the Nipple—If one were to rely upon this condition for a diagnosis, operations upon the breast would be more common than

those for the appendix. In a very large proportion of patients there are single or bilateral retracted nipples in breasts that are absolutely normal otherwise. The retracted nipple of malignancy is due to the same cause as the dimpling of skin mentioned above. Eversion of this latter type of retraction is usually impossible, while in the normally retracted nipple eversion is quite possible in the great majority.

Axillary Adenopathy—To be found readily on palpation in the majority of patients, a gland must be exceptionally enlarged or the subject exceptionally thin.

Metastases are important in their bearing upon the question of operative justifiability. One cannot be too careful in the readily palpable tumor in the search for secondaries, those of the mediastinum or lungs, characterized by a dry cough; in the bones by pain allied to nerve distribution pains, such as facial, intercostal, and in my experience frequently in the course of the sciatics, one or both.

One of my patients lived eleven years after a very extensive dissection. The first evidence of metastasis was a hoarseness of voice, increasing slowly in intensity. It was not suspected that the hoarseness was in any way due to metastasis from the growth removed almost eleven years before until x-ray showed a tumor, the shadow of which was the size of a tangerine and situated above the arch of the aorta.

As far as my personal observations go, I cannot encourage the idea that metastases occur in the abdominal viscera in such frequency as we are lead to believe by various observers. Therefore I am not inclined, in all patients, to practice Handly's resection of the upper segment of the rectus fascia, although I frequently do it.

In addition to the remote sites mentioned, the immediate sites call for consideration. Recurrence in the scar can be assigned to too small a skin flap removal, implantation by using of forceps in the flap edges that have not been properly cleaned after use in the ablated portion; the conveying of cells on the gloves, towels, sponges and other instruments, etc., that have been in contact with the removed area. The fact that cells may be lodged in the lymphatic channels at a remote area must account for those shot-like bodies, seen later at a distance from the scar of operation. Occasionally the shot-like masses in the area formerly occupied by the breast are cystic formations about a ligature, etc., and will disappear in time.

No breast should be removed, when the supraclavicular and cervical glands are so metastatically enlarged as to be readily palpated, but

should be subjected to x-ray or radium for a time. This same statement holds in those patients with massive skin infiltration. I have recently had a marvelous disappearance of the skin infiltration in a woman of thirty-eight after x-ray application by the more recent high voltage machine, although the tumor proper maintained its original size after six months' treatment. This patient was subsequently operated upon and died in six months even with added post-operative x-ray exposures. No breast should be operated upon with a promise of cure or a great extension of life in which the growth, ulcerated or not, is adherent to the chest wall. This type should also be subjected to ray or radium treatment, exceptions being in the instances when one can remove the ulcerating tumor and cover either by plastic or by grafting processes.

I believe that tumors, when they are small should be operated upon and not treated by x-ray until after operation. A regrettable incident occurred in my practice in 1921. A patient with a small nodule in the upper inner quadrant of the right breast was advised by me to be operated upon. However, she had a relative, connected with a large hospital, which deals largely with malignancies and is well furnished with radium and x-ray appliances. By this over-enthusiastic relative the patient was given every confidence of cure, and I lost sight of her for six months. Upon her return to me at the end of this period, during which, she stated, she had been told that she was cured, the growth was still present, decidedly larger, and in addition there was distinctly evident adenopathy. Operation was again advised and consent at this time given. The removed growth was carefully examined by a pathologist, and no cell changes, due to x-ray "sicken- ing" or destruction was observed by him.

Recurrences may be exceptionally rapid, and again very slow. The explanation for either is not ordinarily obtained from the pathologist. At times, he will predict rapid recurrence, as was done in case of the patient with mediastinal growth eleven years after the operation. This patient was considered by two pathologists to be liable to a rapid—six to twelve month—recurrence, and without x-ray or radium treatment, lived eleven years before showing a suspicion of a secondary tumor. No autopsy was done in this case, so that even with the x-ray picture we are still in doubt as to the nature of the growth. Recently I have been notified of the death by senile dementia of a former patient of mine from whom I removed a breast sixteen years ago. The prognosis made by the pathologist was that of a rapid return. No evidence of a recurrence was

observed however, by her last attending physician. The youth of a patient, as in cancers at any site, is a strong factor in early or rapid recurrence or metastasis. The zone of the tumor, I am led to believe, may also be a factor in rapid metastasis. My most rapid recurrences under this heading are secondary to tumors in the axillary border of the breast, and also in the fat type of patient more frequently than in the lean.

The question of doubt in diagnosis may in most instances be determined by an immediate pathological examination of a frozen section. I do not believe that a wide resection of a growth for immediate analysis endangers the patient at all. I cannot make the same statement for those patients in whom the specimen is removed days or weeks before the breast is removed. The clinical picture on gross section of these questionable growths is as a rule so clear that the experienced operator in the majority of instances does not require the microscope except as a confirmatory measure.

X-ray or radium as a preliminary to operation is in my opinion at the present time a "follow the leader game" that will require some years to satisfy us definitely as to its practicability. Use of these agents subsequent to operation is today largely enhanced by the advertisement the agents have received in the public press and by the friends of the patient. I am at present compelled to say that my cases longest free from metastasis were not treated with x-ray or radium, as at that time x-ray and radium were not in their present-day positions.

To be effective in the prolonging of life or producing a cure, at present the most painstaking and extensive dissections are necessary. I am unfortunate in this discussion in being unable to bring before you statistically my recurrences as to site and time as but 43 replies were received to 150 questionnaires sent. Neither am I going to entertain the question of pathology. The most radical operation consists in the complete resection of the pectoral muscles, cleaning out of the axilla of glands and fat, and extending the excision at times to the supraclavicular space. I do not demand the removal of the pectoralis minor, except when unable to freely approach the vessels and nerves of the axillary and sub-clavicular zone. No functional disturbance follows the removal of both pectorals, therefore no hesitancy in removing them should exist.

The questions to be considered in a breast amputation must be: Is it justifiable from the standpoint of recurrence or metastasis? Is the mortality chance sufficiently low? Will the functions of the upper extremity after operation

be preserved? The answers to two of the preceding questions are self-evident as a rule.

The functions of the upper extremity should never be involved. Free motion is always possible when orders for motion are properly carried out in practically every incision devised. The greatest impairment of motion may arise in the Willy Meyer-Halsted incision of years ago, where the axillary edge of the pectoralis major is followed. This line of incision when healed has to be stretched when abduction is instituted and therefore in the nervous, hypersensitive, etc., limitation may be the result. If on the other hand the modified incision be used in which the incision slopes gently over the deltoid with convexity upwards, when the arm is abducted the points of origin and termination of the incision are brought together. The Stewart incision has been used in over eighty-five of my patients since 1916, with no great difficulty in exposure and no great obstruction to motion after the first few weeks, although many patients complain that the upward (abduction) movement drags on the chest wall scar in the early period following operation. The advantage of this incision is purely cosmetic and should be used in selected cases only.

The mortality in my carcinoma cases was two, and these deaths were partly attributable, in all probability, to a siege of streptococcus hæmolyticus infections that we had in the hospital at that time, also in one of these patients due to a second operation being done within eight or nine days subsequent to the first. This patient refused anything but a removal of the suspicious growth and demanded waiting for eight or nine days after being told that the pathological report was carcinoma. On operating radically, the area from which the tumor had been removed was found filled with clot and the surrounding tissues ecchymotic. A complete removal was done, a rapid rise in temperature to 103 in two days, purulent metastases were observed all over the body, joints, cellular tissue, etc., with death resulting in ten days. Culture returns from the pus at the various sites was always that of streptococcus hæmolyticus.

It is very pleasing to record relatively few chest complications in so large an area of exposure to trauma and infection in the respiratory zone.

Cystadenoma, single cyst, or the blue dome cyst of Bloodgood, cysto-fibroma, multiple cyst, intracanalicular, pericanalicular, or adeno-fibroma, etc., are as a rule readily diagnosticated.

In the cyst-adenomata and multi-cystic breasts one feels a single or many small nodules. Very often careful massage from the periphery to center will cause to be extruded from the nipple a

fluid varying in consistency and in color from watery to pale straw, purulent or milky, bloody or chocolate brown appearance.

In all but the bloody or chocolate colored fluids one can safely say that he is dealing with a benign condition. This type of growth is also prone to be bilateral. Recently I removed the remaining breasts of two women previously operated upon, one nine and the other six years, for the same disease. Among its many names, the term "old maid's breast" is frequently applied. When the discharge is bloody or chocolate colored the diagnosis is usually that of inter-canalicular papilloma or a papillomatous cystadenoma. Again this bloody type of discharge may be due to bleeding from a non-papillomatous cyst with a malignant growth in the wall of the cyst. In the latter instance the precautions taken in a definite malignancy had better be observed. By careful palpation one is often able to outline a tumor in the area circumscribed by the outer margin of the areola and usually close to the nipple. On section of this tumor the eye frequently sees the cock's comb like papillomatous growth. These processes usually grow from the inner wall of one of the larger ducts. The question of these papillomata being malignant is disputed by many. I believe that a papilloma of the breast is as dangerous as a papilloma of the bladder or rectum, etc., and that therefore radical removal is in order—at least the removal of the breast is demanded.

In an article published by me—see the American Journal of Surgery, January, 1912—I called attention to this type of tumor recording a series of seventeen patients with several illustrations taken from the removed breasts, presenting very typical papillomatous growths and cited the work of A. A. Strasser, Arlington, New Jersey, who credits Bowlby (St. Bartholomew's Hospital Reports, 1888) with being the first to use the term duct papilloma, etc. I further stated that the question of malignancy in the early stages can be answered in the negative, but that they do become malignant, as evidence, Greenough and Simmons report 14 per cent in the pedicles and Bloodgood at that time claimed 50 per cent in the cases observed at the Johns Hopkins. My conclusion in this quoted article was that in small growths, excision of the growth suffices—while in large growths amputation of the breast is imperative. I shall modify this now by saying that I feel that all papillomatous breasts should be amputated.

Canalicular fibroma, intra and peri: In one instance a very large growth involving the left breast, weighing five pounds, was removed, the

clinical diagnosis of which was sarcoma, the pathological that of intracanalicular adenofibroma—with no gland invasion. Complete removal was done. Six months later the patient coughed up a piece of tissue. Pathological diagnosis was sarcoma. At about the same time the entire cutaneous area was involved with growths from the size of a French pea to a hazelnut. These were subsequently pronounced sarcoma. The inference is, either the slides were wrongly read by the first pathologist, or that the original canalicular growth degenerated into a sarcoma at some point that escaped the pathologist's attention.

As previously stated, my list of operations for cystic breasts does not represent an operative furor—these operations were done for demand reasons—persistent soiling of the linen by leakage; rapid growths; reoperative disappointment, and fear of more operations on the part of several who had from two to five removals done which were followed in a short time by palpable recurrences or rather new growths. These, in all probability were pre-existing small cysts that enlarged.

In those patients in whom we intend removing a single cyst, but whose breast tissue we find studded with numerous cysts in size just visible to that of a French pea or larger, I advocate amputation of the breast without the extensive dissection done in malignancies.

These patients do not have the feeling of mutilation, as expressed by Bloodgood, and more recently by Peck quoting Bloodgood, but in the majority of instances are grateful for the work done. I feel that if they are to have the operation created in their minds many times by propagandists and annual cancer weeks, newspaper notoriety, etc., that a placid mentality due to a complete operation, is far better than a diseased mentality with a less radical operation, not only for the tumor bearing individual but also for each of her relatives and friends.

While cancer week notoriety and propagandism is desirable, nevertheless I have found from my office experience that a great deal of unnecessary mental suffering is created during these periods which again is followed by the gratitude of the sufferer whose mind is relieved.

In the single growth—the blue dome cyst of Bloodgood, the discreet fibroma and the canalicular growth, the operation of removal resolves itself into a resection of the area well outside the tumor, with proper suture repair.

In conclusion I should like to emphasize the belief on my part:

1. That no tumor in the breast is a desirable

tenant even if its innocence be proved without a question of doubt.

2. That a growth in the remaining breast is as likely to be of primary origin as was that in the breast first removed.

3. That at the present day we are unable to state positively what the influence of x-ray and radium is either as a preoperative or post-operative aid. But in view of many apparent reductions in size, etc., previous to operation in cases considered non-operable, the use of x-ray and radium should be encouraged until proven a menace. In my opinion too few years have passed for positive results from the use of these agents, even in view of some of the glowing reports at present regarding the non-recurrence. Post-operative treatment should not be neglected by pre-operative, until some definite proof of its help or inefficiency has been established.

4. That in the presence of late metastases the powerful currents of the present day should be given a thorough test—to prove or disprove the efficiency of this method of treatment.

5. That the uses of radium and x-ray as to cures in malignancies of the breast so far are discouraging.

6. That the most thorough and painstaking wide removal with remote glandular and fascial dissections will tend more to increase our percentage of cures and extension of life. That the radical operation is attended with so low a mortality as to promote a greater desire on the part of consulting physician to demand early operation.

THE TREATMENT OF COMPOUND FRACTURES OF LONG BONES*

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In these modern days when so many advances are being made in scientific medicine and surgery it seems almost necessary to apologize for the presentation of a paper on so ancient and commonplace a subject as the treatment of compound fractures. The fact remains, however, that anyone who sees and studies the end results of a large series of these cases from a standpoint of function, finds much to be desired. The further fact, that a multitude of methods are advocated by as many surgeons and teachers, shows that the last word has not been written on this subject. The problem is worth considering because it has been shown that the victims of such accidents are ai-

*Read before the Inter-State Assembly of the Tri-State District Medical Association, Des Moines, October 29, 30, 31 and November 1, 1923.

ways very severely disabled, and are prevented for many months and often years from returning to any form of occupation, and when returned may be efficient only to a very small percentage of their previous ability. This results yearly in a very large industrial and economic loss. It is the duty of the surgeon to assist in every possible way the very worthy efforts that are being put forward by industrial concerns and other agencies to lessen the period of disability in these and similar accidents, and to increase the ultimate efficiency of the individual so afflicted.

In an attempt to arrive at a reason why fractures in general, and severe compound fractures in particular, are so badly handled by the bulk of practitioners one is faced with several possibilities.

1. The usual text-book teaching of care of fractures is necessarily handled briefly, and often the methods advocated are open to criticism. The student is not able to separate the salient facts and the general principles of treatment are lost on him; hence he needs a closer clinical contact with actual cases.

2. The teaching of fracture treatment is difficult, as most of these are emergency cases and the actual handling of such takes place when the students are not in attendance. They see patients only in splints or more or less fixed permanent dressings. This can be remedied by a compulsory interne service for all students, or by post-graduate work.

3. The treatment of fractures requires a high degree of mechanical ability not possessed by all practitioners. Industrial concerns are not slow to recognize this fact, and a great many are employing specially trained men to look after all of their industrial accidents. The compensation boards of states or provinces are also interested in getting men back to duty in as short a period as possible and with as little loss of function as possible, and they are advocating special training for surgeons undertaking such treatment. The final advance would be the appointment of a specially qualified surgeon, devoting his entire time to the duty, to act as a traveling consultant for a certain district to see all serious accident cases and advise as to their care.

For the purpose of this paper the compound fractures are best divided into two classes:

1. Those compounded from within; the wound usually is small and made by a spicule of bone which has penetrated the skin.

2. Those compounded from without, the wound being made by some crushing or penetrating force which is carried to the bone.

In the first class, after the bones are fractured, the force continuing causes the bone end to protrude through the soft structures and penetrate the skin. In most of the cases the act of straightening the limb causes the bone to recede. In only a small percentage of cases does the bone impale the clothing and carry bits of foreign matter into the wound. In the great majority of these cases no sepsis occurs if properly treated by the surgeon who first sees the case, and it may therefore be treated as a simple fracture. The responsibility for the outcome in this type rests almost entirely with the surgeon who does the first dressing. More than 90 per cent of these cases seen in the emergency and outpatients' departments get well without sepsis.

After removal of clothing the wound should be covered by a small pad of sterile gauze just sufficiently large to cover the wound, and held tightly in place. The skin surface may be cleansed with gasoline from the wound outward to a distance of twelve to fourteen inches, and the limb dry shaved outward from the wound to the same extent. After the gasoline has dried tincture of iodine may be painted on to cover the above area. In children it is always well to rub off iodine subsequently with alcohol to prevent blistering. This area is then covered with sterile towels, the wound itself is cleansed with gasoline, and iodine applied. With a dry dressing and no drainage most of these cases heal kindly by first intention and may be splinted and treated as simple fractures.

In civilian cases where the patient can be brought directly to hospital or surgeon, the application of first aid dressing to the wound by policemen or others is not to be advocated on account of the danger of sepsis.

In the second group of cases the fractures are the result of crushing injuries by heavy machinery or railway accidents, and those comparatively rare civilian cases due to gun shot injuries. In these the destruction of soft tissues is more or less severe, and in some the injury to the vascular structures is so great as to demand immediate amputation. Where the vessels of the limb have escaped most cases are amenable to treatment and secondary amputations for severe sepsis are very rarely necessary.

There are not a few surgeons, who, anxious that the lessons of the war should not be forgotten, advocate very strongly the war methods of dealing with these severe injuries—forgetting that most of the conditions which have to be accepted in war work do not or should not exist in civilian injuries. The injuries in the early years of the war resulted in severe sepsis in practically all

cases, and even in the later stages only about three per cent or less escaped. The first aid dressing was of no avail in preventing sepsis, as the application of iodine on the surface and the application of a sterile dressing could not be expected to be of any value, when it is remembered that the infective material was carried by the ragged missile into the soft tissues of the extremity with the dirty clothing. Many of these cases lay out in "No Man's Land" or were sent down the line, and frequently twenty-four to seventy-two hours elapsed before adequate surgical aid was available. The common infection in all of these cases was the gas bacillus (*bacillus aerogenes capsulatus*), and the loss of time made the prognosis exceedingly grave. Tetanus infection was also a common complication in the early stages. The gas bacillus and tetanus infections were undoubtedly due to the fact that all clothing was saturated with the soil of these heavily manured regions. The immediate injection of antitetanic serum by the ambulance medical officer, the sending of surgical teams to the dressing station for early surgical attention, and the improved splinting of these unfortunate cases certainly were large factors in reducing mortality and in saving many limbs and lives. The surgical measures adopted by these advanced teams were radical and effective. They consisted of extensive debridement, removing all non-viable soft tissue, leaving a great open cavity for irrigation and adequate drainage.

It is quite obvious that most of the conditions which existed in the war and which were responsible for the great calamities of war surgery do not and cannot exist in civilian injuries, and consequently much of the necessary surgery of the war would not only be unnecessary in civilian practice, but in many cases would be reprehensible. The industrial injuries happen for the most part to workmen whose skin is clean, the clothing if soiled is not loaded with infective material, and rarely is the clothing carried in and buried in the soft tissues. Except in those injuries in farming communities due to farm machinery we find gas bacillus infection very rarely. In all cases surgical attention is available within an hour or two of the injury, so that the advocates of war methods must largely modify their methods or much harm may result.

In all injuries of this class occurring in railway accidents, in building operations, and even possibly in all cases, a preventive inoculation with antitetanic serum is advisable. In the treatment of the civilian cases in a general way one would say that the first duty is to combat shock. Rest is secured by the administration of a hypodermic

injection of morphine. Heat is applied externally by means of hot water bags and blankets. Stimulants in the form of hot coffee may be given, and fluids supplied by interstitial salines and the Murphy drip with glucose.

As soon as safe an anesthetic should be administered, and the limb carefully examined. The protection of the wound by sterile gauze and the thorough cleansing and shaving of the skin should be done as noted in the first class of cases. The wound should then be dealt with, first the clipping away of all tags of skin, then the removal of all fascia and muscle tissue which is ragged and obviously damaged so extensively that its recovery is unlikely. The muscle tissue which has lost its color and does not bleed or contract on section likely will never be viable, and should be removed. All gross dirt and foreign matter of any sort should be carefully removed. Loose or comminuted fragments of bone should not be removed unless they are practically extruded from the wound and completely separated from all source of blood supply. The extensive removal of these loose fragments is a very frequent source of ultimate non-union. Even fragments which have a doubtful blood supply should be left, as some may recover and the others may easily be removed subsequently if they are found non-viable.

No attempt at primary suture should be made, but the wound left wide open for adequate drainage. Drains of rubber tubes as in the Carrel Dakin technique may be inserted, or rubber protective and loose gauze may be used and the whole wound irrigated with Dakin's solution every three hours in the daytime, with longer intervals to insure rest at night. If properly splinted with splints of the Thomas pattern to secure good alignment, extension, and support, the wound and the patient should do well. After two weeks of adequate drainage and irrigation, secondary suture may be possible in a fair number of cases. The after treatment of these cases requires unremitting care to see that drainage is free, irrigation is efficient, and extension is always adequate.

Drainage—Whenever possible wounds should be enlarged to take advantage of gravity drainage. Where this is impossible pockets of discharge should be prevented by constant irrigation or the use of the Taylor suction tank drainage. The use of Bipp—bismuth, iodoform, and petrolatum or paraffin—as advocated by Sir Rutherdale Morrison may be of definite value if properly applied. In the writer's opinion its greatest value is due to the paraffin oil or petrolatum. When it is smeared into a wound thoroughly,

leaving only a thin coating on the exposed tissues, it thereby prevents adhesion of the surfaces for a period of forty-eight hours or more, and makes a very efficient form of drainage by preventing the retention of secretions and toxins in the deeper tissues. The gross application of Bipp as so often used to fill the whole cavity defeats the very object for which it was devised, and no wound will heal until this is all removed or discharged.

Splints—Adequate splinting of a compound fracture at the very earliest moment after injury is an essential feature of treatment. It tends to lessen shock, prevents further injury to soft structures, tends to limit the extension of sepsis and brings comfort and freedom from pain to the patient. In the war it was one of the great factors in lessening the dreadful mortality rate and in improving the chances for ultimate reasonable function. The objects aimed at in successful splinting are:

1. To secure in as great a degree as possible proper alignment of the fractured bones.
2. To recover as nearly as possible the original length of the limb. This is especially necessary in the case of the lower extremity.
3. To immobilize more or less completely the joints above and below the fracture.
4. To afford easy access to the wounds for dressing and irrigation without losing any of the features noted above. The only method of holding a fractured limb which permits of these aims being carried out effectively, is that of extension, and any splint which may be advocated must depend on the principle of extension for its efficiency.

The great lesson of the war so far as fractures are concerned was that which showed the marvelous utility of the Thomas splint in meeting all of the demands as noted above. That the lesson was well learned is amply demonstrated by the fact that in fracture clinics the world over the Thomas splint with many modifications is the chief reliance of the surgeons of such clinics. To Sir Robert Jones is due the real credit for the introduction of this splint, thus supplanting the many antiquated and inefficient splints previously used.

For transport, in fractures of the lower extremity, the usual type of Thomas splint provides the possibility of adequate extension, giving alignment and approximate length, with fixation of joints, support of the soft tissues, and easy accessibility for dressing. In hospital the additional suspension from a Balkan frame and extension from the end of the splint will complete the comfort of the patient and facilitate the nursing. In the upper extremity the swivel ring modification permits of the arm being placed at

the side, and makes transportation easier. In hospital it is desirable that some modification of this splint be made because of the danger to the joint function and the possibility, in severe septic conditions in the neighborhood of the elbow, of ankylosis of the elbow joint. In splinting which must be more or less prolonged, where there is danger of ankylosis, the principle should always be kept in mind that the limb should be placed in the most useful functional position should ankylosis occur. Further, at as early a period as possible function should be stimulated by permitting active, or at least passive, movements of the joints of the extremity. Needless prolonged splinting is still a most fruitful source of loss of function.

My colleague Dr. George Wilson has developed a modification of the Thomas splint for use especially in the upper arm, which has proven very efficient in our clinic. The extension is obtained by incorporating the upper end of the wire splint into a plaster of Paris band about the chest, thus doing away with the ring pressure in the axilla which is always a source of discomfort and danger if long maintained.

Non-Union—That sepsis is not a large factor in the production of non-union has been amply demonstrated in the large series of war fractures. The chief causes of non-union are, first, gaps due to loss of substance of bones, from early removal of many of the comminuted fragments, or second, lack of apposition from interposition of muscle or fascial structures. The comminution of bone rather tends to increase the amount of callus thrown out, and increases the probability of union. The removal of these fragments makes gaps between the ends, and non-union is likely to occur. In septic conditions the inflammatory reaction increases the bone growth and with reasonable approximation union will always occur. Very few of the fragments found even in severely crushed bones are so completely separated from all soft structures as to endanger their blood supply, and most of these can be brought fairly well into line by splinting and some replacement at the time of primary cleaning up. Bone lacking approximation in septic conditions, without union, may be brought into line usually by splinting with extension, removal of the intervening tissue, and fixation by heavy kangaroo tendon inserted through a drill hole in the fragments far enough from the ends to hold securely. The extension and support with the Thomas splint usually will be effective in holding the position by the time the sutures are absorbed.

The fixation of fragments in septic fractures by steel plates or bands, so freely advocated by

some surgeons, has been shown to be harmful and for the most part to destroy the prospect of early healing. Even when plates are put on as a temporary measure to act as internal splints, with the expectation of their removal at an early date, they usually defeat the object sought. The series of drill holes for insertion of screws opens up the interior of the bones to infection, and when the plates are removed it is found that a necrotic area the size of the affixed plate usually results. There may be a mass of callus all about the plate, sometimes burying it, but the necrotic area will sequestrate and union necessarily must be delayed or in some cases, as shown by Mr. Hey Groves, the whole thickness of bone becomes necrotic, and its sequestration leads to a gap between the bone ends. The fixation is not greater than that secured by absorbable material, as fascia or kangaroo tendon, as the screws rapidly loosen and pull out, and dependence must be placed on the splinting for continued fixation.

The non-union which may have resulted from failure to remove fibrous tissue separating the bone ends undoubtedly is best treated by an autogenous bone graft. The time at which this bone graft should be done has been a debated question, but experience has shown that approximately a year should elapse after all sinuses have healed before grafting should be attempted. Even after this period foci of infection have been uncovered. When the infection is gross enough to be certain the operation should be delayed, for while in certain cases bone grafts remain and union is accomplished, in more cases the graft is extruded and the operation fails. In non-union due to gaps in the case of single bones, as the humerus or the femur, the bone ends should be approximated and the graft inserted, even if a considerable degree of shortening results. In bridging gaps in one of the bones of the forearm or leg it is never good judgment to shorten the remaining solid bone to permit approximation of the ends of the other. These gaps may be bridged by an autogenous graft even when the distance is four inches or more. The success of such graft depends largely on the close approximation of the graft to the bone into which it is planted. We have found that the diamond shaped graft fitted into a long straight cut, in the case of small bones like the ulna or radius, is most efficient. By springing the edges of the straight cut the wedge graft can be so tightly placed as to hold without other fixation. In large bones like the tibia the V cut is made slightly narrower than the diamond shaped graft and the latter is driven firmly into place. A period of perfect splinting with plaster of Paris or other efficient material should be

maintained for three months at least before union may be looked for. Failures are usually due to sepsis, poor approximation or imperfect splinting.

After perfect healing and solid union of these fractures has taken place the function of the limb may be very imperfect. The muscles controlling the joints above or below the fracture may be tremendously tied up with scar tissue or the muscle may be in part destroyed or removed. The movements of the neighboring joints thereby are very much restricted. A prolonged course of hydrotherapy and massage should be employed to hasten the recovery of function and put the patient back into his place as a wage earner. Neglect to follow up cases after union is secured, to see that adequate after treatment is carried out, is responsible in large measure for the long periods of disability from which these patients suffer.

WHAT TO EXPECT AND WHAT NOT TO EXPECT FROM THE WASSERMANN REACTION

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I. PRINCIPLES OF COMPLEMENT FIXATION TESTS

The Wassermann test is now widely recognized and used as a valuable aid in collecting diagnostic data. It is one of several complement fixation tests, all of which are based upon the same general principles. These principles were derived step by step and are as follows: In any infectious disease, the invasion of the body by the infecting organism causes the production of specific substances to combat the growth and reproduction of the microorganism or to neutralize its toxins. The finding of these specific substances in the blood is one of the means of demonstrating and naming disease. In 1894 Pfeiffer showed that the serum of animals infected by cholera acquired the power to dissolve the cholera spirillum. The substance in the serum which is capable of dissolving bacterial cells is known as a bacteriolysin. In 1895 Bordet showed that under certain conditions blood serum would dissolve cells other than bacteria. He showed that if the blood corpuscles of one animal are injected into an animal of a different species, the serum of the second animal acquires the power to dissolve the blood corpuscles of the first. The specific substance produced which will dissolve blood corpuscles is called a hemolysin. Any substance which, when injected into suitable animals, will

result in the formation of specific antibodies, is called an *antigen*. Antigens may be bacterial, cellular or chemical. The substances they produce are specific, are resistant to a temperature of 56°C. for one-half hour and hence are thermostable, and are called *amboceptors*. A bacteriolysin is a bacteriolytic amboceptor; a hemolysin is a hemolytic amboceptor, etc.

Bordet later showed that the presence of a third substance was necessary in certain reactions to link antigen and amboceptor together. This substance is a normal constituent of serum, is destroyed by heating to 56°C. for one-half hour and hence is thermolabile, and is called *complement*.

In making the Wassermann test for the detection of syphilis the above principles are applied by mixing the serum or spinal fluid of the patient with a syphilitic antigen (formerly watery extract of a fetal syphilitic liver), and complement (from the fresh serum obtained from the blood of guinea pigs). If the patient's serum or spinal fluid contains syphilitic amboceptor, complement is fixed or bound. But the binding of complement is an invisible reaction, so in order to determine whether any complement is left free in the test tube, a hemolytic amboceptor (heated serum of a rabbit that has been injected with sheep's corpuscles) and its corresponding antigen (sheep's corpuscles) are added. If the patient's serum or spinal fluid contains specific syphilitic amboceptor, it and the syphilitic antigen added have bound the complement which was also added. Then there is no complement free to link together the hemolytic amboceptor and the sheep cells, which were added later, hence no hemolysis takes place, and the Wassermann reaction is said to be strongly positive.

It is now known that the so-called syphilitic antigen used in the Wassermann test can be prepared from normal tissue, hence the test is not biologically specific, but in this part of the world its diagnostic value for syphilis is not seriously impaired, because the peculiar amboceptor responsible for the reaction is known definitely to occur only in syphilis and yaws. At this point we may consider factors that influence the result of the Wassermann test.

II. FACTORS INFLUENCING THE WASSERMANN REACTION

1. *Anesthetics*—Chloroform and ether administered as anesthetics may cause a normal blood to give a positive reaction, hence the blood specimen should not be taken within two days after the administration of an anesthetic.

2. *Alcohol*—The ingestion of alcohol within twenty-four hours may change even a strongly

positive serum to a negative one. The blood may remain negative for as long as three days, though it usually becomes positive again within twenty-four hours.

3. *Bacterial Contamination*—Certain strains of bacteria are known to have caused serums to give anticomplementary or even falsely positive reactions.¹ Sera older than five or six days are likely to give anticomplementary reactions whether contaminated by bacteria or not.

4. *Glassware*—Minute traces of acids or alkalies in glassware may cause normal serums to give falsely positive Wassermann reactions; larger amounts of acids or alkalies may cause syphilitic serums to give negative reactions.² All glassware used in making the test, in the state laboratory, is prepared with special care and we prefer that physicians use our chemically clean and sterile outfits for the collection of specimens instead of using bottles or other containers, except vacuum tubes.

5. *Other Diseases*—Formerly there was a long list of diseases which were supposed to give falsely positive reactions. With improved technique the number has been greatly reduced. There is no biological reason for their occurrence in any non-syphilitic disease except yaws, which is caused by a treponema morphologically not easily distinguished from treponema pallidum. A careful study of the clinical history and symptoms should enable the physician to recognize yaws, although this disease is not at all common in the United States. It should be remembered that syphilis can exist concurrently with any other disease. However, there are a few diseases in which a positive Wassermann reaction is sometimes obtained where the most careful study fails to disclose any evidence or history indicating syphilitic infection. These diseases are yaws; leprosy, particularly the tubercular form; some cases of relapsing fever; and some malarial infections during the febrile periods.³ Bile stained serum may give a falsely positive reaction.⁴ When such a serum gives a positive reaction the state laboratory informs the physician that the reaction may be unreliable because of the presence of bile. Scleroderma is also said to sometimes give a falsely positive reaction.⁵

6. *Normal Variations*—Occasionally it is very difficult to get a consistent result with the Wassermann test.⁶ Craig⁷ and others have proved that even in the absence of specific treatment, marked daily variations occur in the strength of the complement fixing substance in the blood of syphilitics, some of them showing severe lesions. The cause of the variations is unknown, but the variations emphasize the possible unreliability of

even one or two negative Wassermann reactions in suspected syphilitics or those apparently cured. If it is desired to secure reports from more than one laboratory, one of the several factors in making the tests comparable is to send each laboratory a portion of the same specimen of blood. Frequent examination in any stage of the disease may be expected to give a much higher percentage of positive results than are usually recorded. It is also worth remembering that while the syphilitic amboceptor may not be present in the blood it may be in the spinal fluid. Many syphilitics have positive spinal fluids during even the first year of the infection.

7. *Treatment*—Patients undergoing anti-syphilitic treatment frequently give a negative Wassermann reaction during the time treatment is being administered and for several weeks afterwards, so that it is better to test the blood after treatment has been stopped for about four weeks, with other tests at frequent intervals to detect relapses.

8. *The "Provocative" Wassermann.* For unknown reasons a dose of salvarsan or neosalvarsan will often convert a negative Wassermann reaction into a positive one within from a few hours to two weeks following the injection. Sometimes the reaction quickly disappears, so that the blood should be collected frequently for tests. The provocative Wassermann is a useful adjunct in diagnosis of doubtful cases, and in determining the probabilities of cure of syphilis, though considerable work is required to take full advantage of it.

III. RESULTS IN UNTREATED SYPHILIS

1. *Primary Stage*—A syphilitic infection must exist in man for a certain length of time before the substance responsible for a positive Wassermann reaction will appear in the blood. This time will vary with the virulence of the infection and the resistance of the patient. In the primary stage, as in any other stage, a certain proportion of negative Wassermanns must be expected, hence a negative result does not prove that a suspicious lesion is non-syphilitic. Stokes and McFarland⁸ found positive Wassermann reactions by the second week in 70 per cent of their primary cases. In 600 cases of primary syphilis Craig⁹ found the percentage of strongly positive Wassermann reactions secured during each of the first five weeks to be 36, 60, 68, 77 and 81 per cent respectively. In round numbers we may say that during each of the first four weeks after the appearance of the sore the percentage of positive Wassermann reactions is 25, 50, 75 and 97, respectively. In the primary stage a weakly posi-

tive reaction has more diagnostic value than in any other stage. The probabilities of finding the *Treponema pallidum* in the lesions decrease in the same ratio that the probabilities of securing a positive Wassermann reaction increase.¹⁰

2. *Secondary Stage*—The largest percentage of positive Wassermann reactions is found in the secondary stage of syphilis. A good laboratory should report a positive Wassermann on about 95 to 97 per cent of these cases, untreated. In untreated cases the percentage is about 95 and in treated above 90. When suspicious symptoms of secondary syphilis are present, a negative Wassermann reaction should have greater weight than in any other stage of the disease. But it must not be forgotten that some cases of secondary syphilis give a negative reaction for months.

3. *Tertiary Stage*—Previous treatment will reduce the number of positive reactions, so that in all tertiary cases as they come, about 87 per cent are likely to be positive, though in untreated cases with definite lesions of tertiary syphilis, the Wassermann is positive in about 95 per cent of the cases. An outstanding lesion of this stage is the gumma, with a decided tendency to visceral involvement.

4. *Latent Stage*—In the latent period before the secondary stage of the disease, more positive reactions are obtained than in the latent periods upon congenital syphilitics ranging in age from a few weeks to adult life. When lesions are present at birth about 90 per cent of cases are positive. Craig states¹² that in children with lesions, of late congenital syphilis, positive reactions are obtained in 80 to 85 per cent of cases, and that in still older individuals in whom syphilis is supposed to be congenital, only about 70 to 75 per cent of positive reactions are obtained. Soloman and Soloman¹³ state there is considerable evidence that the Wassermann reaction in cases of congenital syphilis tends to become negative as the years go on, and that during the adolescent period following either the secondary or tertiary periods. Craig¹¹ found 68 per cent of 1,525 cases of latent syphilis gave a positive reaction, though the number would have been higher if all the cases had been untreated. A weakly positive reaction is of more diagnostic value than in most other stages, and a negative has less value in excluding the disease. This is the period of the greatest variation in the Wassermann reaction.

5. *Congenital Syphilis*—There is considerable variation in the result of the Wassermann test at this stage. Others¹⁴ have found that all syphilitic infants give strongly positive Wassermann reactions except in the first few weeks of life who become positive shortly afterward. They

found 50 per cent of infants with strongly positive reactions who showed physical evidence of syphilis at the time of examination (two to eight months of age). They also found that among infants later proved to be syphilitic and to have strong positive reactions, 37 per cent gave negative reactions at birth and another 18 per cent gave positive reactions with the cholesterinized reaction only. Partial reactions obtained at birth or during the first few weeks became either strongly positive or entirely negative when the infants were examined later. They believe that in childhood a congenital syphilitic rarely gives a negative Wassermann, though in adult life even without treatment the Wassermann frequently becomes negative. We believe that children without symptoms of syphilis, yet born of parents one or both of whom has had syphilis, should be examined by the Wassermann test at three, six, nine and twelve months of age in an attempt to discover latent syphilis in infancy.

IV. THE WASSERMANN REACTION IN TREATED SYPHILITICS

Treatment with salversan tends to weaken or make negative a positive Wassermann except under conditions described as the "provocative treatment." The effect of treatment is most marked during the primary stage of syphilis and least marked during the tertiary stage. The stronger the reaction the longer the time and the more medication required to make it weaker or negative. Injury should not be done the patient by failure to allow periods of rest from treatment even though it is not expected that a cure has been effected. Some authorities hold that the Wassermann reaction should not be used in the control of treatment, lest the Wassermann instead of the patient be treated. However, a larger number of authorities hold that usually a positive Wassermann reaction indicates that treatment is incomplete or that an apparently cured case is relapsing. A small percentage of cases become "Wassermann fast" i. e., the clinical symptoms disappear under treatment, but the Wassermann reaction never becomes negative. Such cases may have some form of visceral or nervous system syphilis. The blood Wassermann may become negative, yet the spinal fluid Wassermann be positive. Physicians are coming to appreciate the importance of examination of the spinal fluid for evidence of cure, as well as an aid to early diagnosis of involvement of the nervous system. We are glad to note that increasing numbers of physicians are sending spinal fluids to the state laboratory for the Wassermann test.

V. CONCLUSIONS

Volumes have been written on syphilis and the Wassermann reaction, hence this brief treatment of the subject is necessarily very inadequate. Someone has tersely said that the only constant characteristic of syphilis is its universal variability. With a knowledge of this fact and of the possibilities and limitations of the Wassermann test, a wise physician will depend upon both clinical acumen and the Wassermann reaction in diagnosing or treating syphilis.

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PIONEER PHYSICIANS

D. S. FAIRCHILD, M.D., Clinton

BIOGRAPHIC SKETCH OF THE LIFE OF DR. MERRILL OTIS OF TABOR, IOWA

Dr. Otis was born in Holmes county, Ohio, May 16, 1830. When seven years of age he moved with his father's family to Henry county, Illinois, where he was educated in the common school and at Oxford Academy. At the age of nineteen he entered Rush Medical College of Chicago and read medicine under the English physician, Thomas Hall. He graduated in medicine from the St. Joseph College of Physicians and Surgeons and began the practice of medicine in Henry county, Ia., in 1852. He formed several partnerships in the practice of medicine after he moved to Tabor. The physicians with whom he was associated were Dr. R. R. Hanley, Dr. G. S. Stevens and a Dr. Rust. He began his practice in Tabor in 1866. At the commencement of the Civil War he offered his services with the volunteer corps but was not accepted because the quota had been filled. He served as a member of the county board of supervisors, a member of

the state board of registration, and also later had charge of the distribution of the funds of the county. The doctor was married twice. His first wife, Margaret, died in April, 1881, at Tabor, Iowa. In 1889 he was married to Alice Connor of Bartlett, Iowa, who still lives. He acquired considerable property in the town of Tabor, and the surrounding country. He was

1839, and died at his home in Council Bluffs, Iowa, August 14, 1907.

His father was a minister of the Free Church of Scotland and his maternal grandfather, Rev. James Russell, was also a clergyman living at Gairlock, Ross-shire, Scotland.

Dr. Macrae graduated from the University of Edinburgh medical department in August, 1861. His first professional experience was gained in Edinburgh Royal Infirmary for one and a half years. For four years he was surgeon with the Cunard Steamship Company and during that time crossed the Atlantic seventy-five times. On his last trip in 1867, he married Miss Charlotte Bouchette, a native of Canada, a daughter of Joseph Bouchette, surveyor general of Canada. Mrs. Macrae died March 28, 1904.

Dr. Donald Macrae came to Council Bluffs in 1867, where he practiced medicine and surgery about forty years. He was the most influential practitioner in western Iowa. For several years Dr. Macrae was professor of the principles and practice of medicine in the Omaha Medical College, later the medical department of the Nebraska University and dean of the faculty. He became a member of the Iowa State Medical Society in 1883 and was president of the Society in 1888. He was a member of the American Medical Association and was the Iowa member of the last nominating committee preceding the reorganization. He was also a member of the International Medical Congress that met in Washington and also an original member of the Missouri Valley Medical Association and at one time its president.

Surviving Dr. Macrae are three brothers and one sister. James Macrae of Council Bluffs, Rev. John S. Macrae of Melbourne, Australia, F. A. Macrae of London, England, and Mrs. Mary Stewart of Melbourne, Australia.

Dr. Macrae never courted publicity, but on account of his high ideals was much respected by the people of Council Bluffs and by the profession of the state and nation. On reviewing the transactions of the Pottawattamie County Medical Society, Dr. Macrae's name appears at nearly every meeting and his voice was always raised in protest against any irregularity, shortcomings or derelictions of its members. Dr. Macrae inherited from his Scotch ancestors the uncompromising tendencies of his race, no personal advantage would lead him to swerve from the lines of right and justice, either in relation to his profession or in relation to his civic or social duties. He was also charitable to his brother physicians,



MERRILL OTIS, M.D.

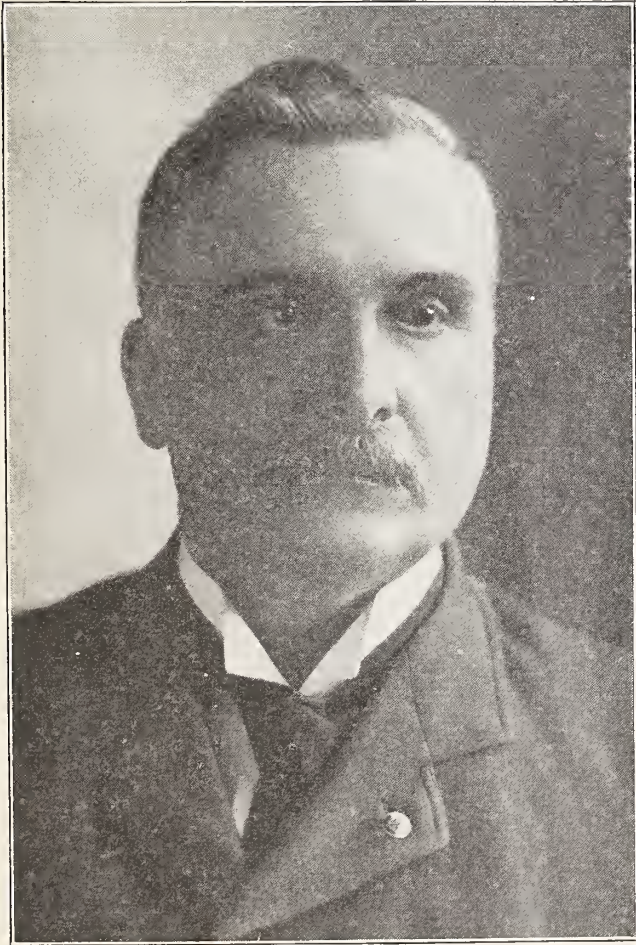
one of the charter members of the Baptist church at Tabor. A brother, J. C. Otis, was a Baptist minister, and died at Glenwood, Iowa. Another brother, H. W. Otis resided in Red Oak, Iowa. There are three children from his first marriage living; C. M. Otis, Tabor, Iowa; Mrs. Adda German, Persia, Iowa, and Mrs. E. M. Myers, Glenwood, Iowa. A grandson, Dr. Merrill M. Myers, is in the practice of medicine in Des Moines, Iowa. Dr. Otis, died from a septic blood stream infection after four days' illness on March 17, 1889.

DONALD MACRAE, SR., M.D.

Dr. Donald Macrae of Council Bluffs, a son of Rev. Donald and Jessie (Russell) Macrae, was born in Ross-shire, Scotland, October 3,

but would never compromise with wrong doing or dishonest methods. These well known traits of character held a strong influence in keeping those who would go astray, in the straight paths of duty. Council Bluffs had the good fortune to have a group of medical practitioners of like-minded men, who, with similar views, kept medical practice clean and honorable, a high position which is maintained to the present day.

Dr. Macrae was succeeded in the practice of medicine by his son, Dr. Donald Macrae, Jr.,



DONALD MACRAE, M.D.

who has attained distinction in his profession and in the service of his country.

Dr. Donald Macrae, Jr., was born at Council Bluffs, January 24, 1870, and after graduating in medicine, was associated with his father in the practice of his profession, until the death of Dr. Donald Macrae, Sr., in 1907. Like the father, the son has adhered strictly to high ideals of medical ethics and when the historian of the future shall review the work of the past and the present, the generations of Macraes will stand out in the honor list of Iowa physicians.

DOCTOR ANDREW WILSON MCCLURE

Doctor Andrew Wilson McClure occupied a leading position in the medical life and development of the state of Iowa, having practiced in Henry county for forty-eight years, from 1856 until 1905.

The early years of his practice were full of vicissitude and sacrifice as the state was new, and the country undeveloped. Many visits were made on foot or horseback as roads were often impassable. Streams were forded, roads broken through snow drifts and dangers encountered in order to reach the bedside of the sick. Hospital facilities and nurses were unavailable so the attending physician must often personally supervise the care of the patient.

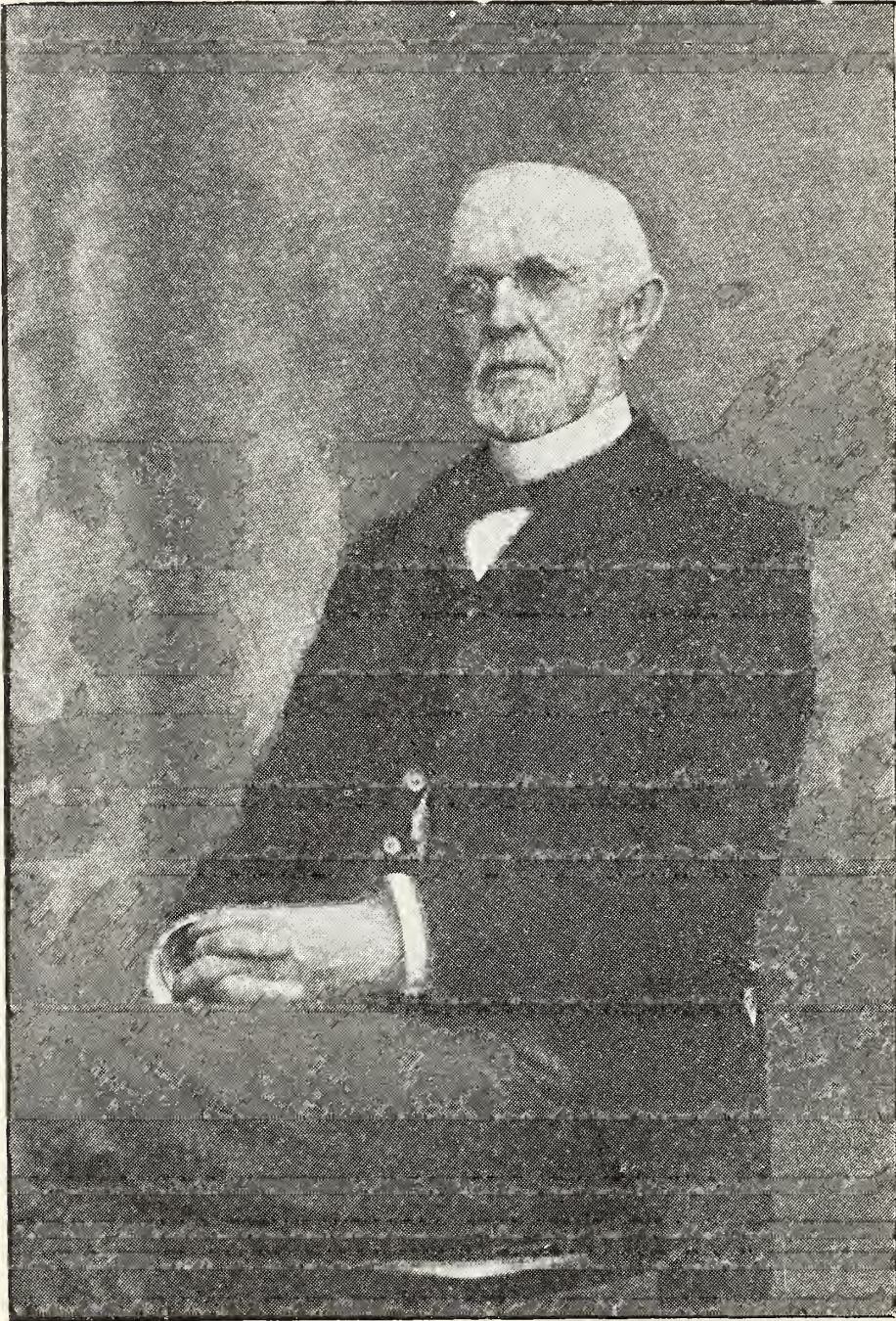
Doctor McClure was born near Lebanon, Warren county, Ohio, June 10, 1828, and died in Mount Pleasant, Iowa, May 20, 1905. His early education was acquired in the district and academic schools of his native place. He was graduated from the Ohio Medical College in 1853 and after practicing three years in Paris, Illinois, he located in Iowa, forming a partnership with Dr. Wellington Bird of Mount Pleasant, one of the old established physicians of the place. In 1859 and 1860 Dr. McClure took a post-graduate course at the University of Pennsylvania and in later years he returned to the school for further study.

The call for troops in 1861 carried the doctor into the army as surgeon of the Fourth Iowa Cavalry, and he was promoted to brigade surgeon in the Vicksburg campaign at which time his health failed and he was obliged to resign.

In 1860 Dr. McClure married Emily C. Porter, a native of Iowa and a daughter of Col. Asbury B. Porter, a pioneer of the state and a gallant soldier of the Civil War. Two daughters of this union are living, May M., widow of Wm. F. Kelley, United States counsel general at Rome in 1916, and Martha, who retains the old family home in Mount Pleasant.

A busy professional life did not prevent the doctor from taking an active part in the political and business life of the state. He served the school interests as a member of the school board, was for many years a trustee for the Iowa State Hospital for the Insane at Mount Pleasant. He was president at different times of the Iowa State Medical Society, 1886, district and local organizations, and a leader in the work of the American Medical Association.

Throughout his practice he was a frequent contributor to medical and other journals; the address he delivered before the State Medical Society in 1887 was copied in the leading jour-



DR. ANDREW WILSON McCLURE

nals of the country and his last article on "Mental Theraphy" attracted wide attention on account of the advanced ideas and practical suggestions. His counsel and sympathy to the members of the profession, especially to the younger members, was most dependable and valuable. He was an inspiration to such by his pure professional character as well as through his genial sympathetic mind. His example as a Christian, the breadth of his mind and the benevolence of his heart, the simplicity and purity of his life, his especial interest in the young, his respect for the aged and tenderness for the unfortunate, and above all his true friendship made him a useful citizen and a

successful physician.

A friend and neighbor at the time of his death paid this tribute to Dr. McClure:

"As a physician he excelled in many lines but most of all his sympathy with those who suffered nervously; his quiet presence, his firm belief in his Creator, his apt and ready quotations from the Bible, have soothed and comforted when relief could not be obtained from materia medica, and hours of blissful repose have followed in the wake of his visit. A song of joy and thankfulness should rise for his beautiful and useful life which benefited humanity for nearly half a century."—F. C. Mehler.

The Journal of the Iowa State Medical Society

D. S. FAIRCHILD, Editor.....Clinton, Iowa

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FIELD ACTIVITIES IN MEDICAL SOCIETIES

We have generally accepted the idea of progress under the terms of evolution, or the acceptance of new or modified methods of action as theoretically better than the methods in use. Superficially considered society suddenly changed from the use of tallow candles and whale oil lamps to most brilliant methods of illumination, and surgery, from the laudable pus to the most modern aseptic methods of practice. But well informed men know that this is not so. Many attempts were made for better things and many failures mark the way. At last present conditions were reached. This was not the work of a special group called "Progressives" but the work of all who wanted better things. No one was satisfied with the first automobiles, but the needs of the people and the exigencies of trade brought better and better machines.

For many years beginning with the Guilds, medical men organized for advancement and the betterment of the profession and incidentally, for the betterment of individual members. It may be admitted that there was a selfish motive, but this motive rested on the idea that the more the profession was respected, the greater would be the interest of the individual member, and from the time of the Guilds to the present day, the idea of progressive men has been more complete organization, having in mind always the fact that the more the organization was respected by the public, the greater would be the influence of the individual member.

There has always been a number of men of lower ideals and inferior mental equipment who have felt that if they remained outside of organization they could do as they pleased without the restraining influence of the majority opinion. These members have been looked upon as the pariah of the profession. There has always been a feeling that these men should be reclaimed and be made useful members of the profession, and in the community in which they live, and for this reason various measures have been employed to bring them in without much regard to their worth or value. There are, however, certain counties where the number of physicians is small and where organization is difficult, that contain men who do not belong to the class mentioned. It is in these counties that special efforts should be made to overcome in some measure the handicap under which they live. Measures should be taken to join neighboring counties. Again, organization in counties more favored falls to a low estate because the law of evolution fails to operate from lack of interest, or ill feeling, among the members of the local profession. What is the cause of the loss of interest or ill feeling? Generally they are superficial, and can be remedied if some one of understanding and diplomatic skill could go among them for a period and demonstrate the serious loss they sustain by their estrangement; what are the local difficulties, and why cannot the laws of evolution operate.

A few years ago the State Society undertook a plan, but the plan was ill-considered and became so involved that it soon failed. It was an expensive experiment, but it served a useful purpose in showing how it should not be done. At the last meeting of the Society another and much better plan was proposed. It was to give the secretary an assistant, who should study the situation, find out what the difficulties in the different sections of the state are, and quietly find the remedy. He should be under the advice and direction of the secretary.

One of the difficulties in matters of this kind, is the attempt to apply the remedy before the diagnosis is made. It may be a year before any direct work is done. The diagnosis is all important, not to be made as is sometimes the case with some extremely progressive modern physicians, with machinery or by pressing the button, but by an intellectual study of all local conditions, particularly geographical; can county membership be adjusted, can some adjustment be made to develop larger district societies with some county unit adjustment? It seems to me that the work should be done with the least publicity possible and with the fullest exercise of

good faith. The pages of the Journal could be used, not in detailing the great work of the secretary's office, but the work the local men were doing, securing from time to time, papers for publication, or, at least, encouraging local secretaries to write out full reports of society meetings and not send in a newspaper report, which often comes in late and contains mostly newspaper clatter, without date, and often cannot be used in a medical journal, even after a careful study of the text by a most enterprising editor. The editor pores over newspaper clippings many a night trying to sift out something that can be used to the credit of the local profession.

The secretary's assistant may, as we did in our early teaching experience in New England, "board around" among the profession in certain districts to find out how they feel. He must make friends with the councilors and co-operate with them in their respective districts. Do not meddle with medical politics; leave that to the committee on legislation.

These are some suggestions by one who knows a good deal about professional affairs. The work of the secretary cannot be determined off hand, only after years of service.

On another day the Journal will have something to say about the secretary's assistant securing an interest in the profession toward advertisements, for, if the doctors do not read the advertising pages and patronize them, business men will say there is no advantage in advertising in a medical journal, because the doctors will not read them.

TO MAKE UP A MEDICAL JOURNAL

The editor has always had difficulty with sermons, even in his youth, when required without his free will to sit very still and listen to a long discourse, which he did not understand, even as in youth and old age it has always been so, and now, when we have felt that something enlightening should be said, we have hesitated for fear of falling into a habit of preaching we have dreaded for so many years, so, when we find a discourse prepared by a colleague, we copy it, and thus relieve ourselves. Just now we have one from "Colorado Medicine".

In the first place, the material which comes in for the Journal in the way of manuscript, called "copy", must all be scrutinized by the editor; he must decide upon its acceptance or otherwise, determine under what department of the journal it will be printed, and then undertake the laborious work of carefully reading and editing it so that it will appear in proper form, be grammatical and be free from errors of all

kinds as far as possible. Papers read at the annual meeting are run through the year; they are in the editor's hands following the meeting, so that he may know about how many of those particular articles will have to be taken care of in the twelve issues. Other articles are submitted by individuals, and a raft of circulars are received in the editorial office, which must at least be read with a view to securing news items of one kind or another. Editorial matter, the editor must either beat out of his own brain, or extract from the brains of obliging confreres. News items are gathered hither and yon, and many small items concerning members are obtained from a news clipping bureau. This is all collected along through the month, put into form, and sent down to the printer.

Then long galleys of "proof" begin to come back to the editor from the printer, and this proof must all be read, practically letter by letter, for mistakes in spelling, punctuation, paragraphing, sense, etc. (proof reading being something of an art in itself), and extra copies of proof of authors' articles must be mailed out to the authors, with a reprint order slip attached. When an author's proof is returned, it must be in turn compared with the original proof, and the author's own corrections transferred to the original. When all proof is in and so corrected, it is returned to the printer, and the journal is then ready for the make-up. On a set date, the editor is in the habit of being present a whole morning at make-up time to decide upon the number of pages, proper arrangement, etc., and the long galleys of type are then made into page form, from which again proofs are struck off, called page proof. The page proof must then be gone over carefully, and, especially, compared with the original galley proof, to see that all corrections thereof indicated have been properly made by the printer.

Nothing has been said so far about advertising matter. The advertising copy comes in usually in good form, very often accompanied by cuts. Receipt of this must be very carefully recorded, the copy and cut to the printer, and proper record made of that act. Proofs of the advertising must be struck off and sent to all the advertisers and their O.K. and correction obtained.

All the proof, both reading matter and advertising, must be carefully measured, so that an idea of the number of pages required to carry it can be had. As the pages must represent a multiple of four, a good deal of matter must be set up, ready to be used or not used, if needed to fill out an extra page or two.

The work as described so far, except typesetting, is the editor's job, and the job of the printer, other than already mentioned, will not be touched upon except to say that after all the page proof has been properly corrected and returned to him, his duty is to print, bind and mail out the issue, the editor trusting to the Lord that no vital mistakes have been made.

The printer keeps a mailing list set up, and strikes off proof each month which the editor's office must

check over. Changes of address come in frequently, and each month all these changes must be made on the proof.

Besides the strictly editorial work, there is other clerical work in the office, no small part of which is correspondence and keeping accounts with the advertisers. Advertising is charged for at schedule rates, according to the space used, and bills are sent monthly or quarterly, according to the terms of the contract.

Now if you think of a doctor, fairly busy in his own specialty, running "Colorado Medicine" (or the Journal of the Iowa State Medical Society), as described and acting in the capacity of editor, managing editor, and business manager, and perhaps imagine that he has to do this work piece-meal, and at odd moments during his office hours, perhaps putting in a good deal of night work in addition. Your imagination is working perfectly—that is just what the present editor has to do, and if you knew of one-tenth of the interruptions, telephone calls, kicks from authors, kicks from subscribers who have changed their address, and to whom it has not even occurred to notify the editor, you would wonder perhaps, how he manages the job. He is frank to say that when he undertook the work, he did not have a true conception of what it would entail and he has had to contrive for himself a system of "ticklers" and "work organizers" of one kind or another, in order to make it possible for him to carry on.

The secretaries of county societies could add a great deal of life to the journal, if they would send in each month accounts of their meetings and news items about these members. As far as articles are concerned, the editor desires to accept all that are worthy, if the journal space will allow printing them. Necessarily, for financial reasons, the size of each issue is limited.

THE LEGAL ASPECT OF DICHOTOMY

The Lancet of March 29, 1924, presents the English view of dichotomy, or secret fee sharing, from its legal aspect. If a patient is attended by a general practitioner who advises an operation or consultation, and the patient accepts the advice and leaves it to the practitioner to arrange for the service of the operating surgeon or consultant, and that the latter, on being paid his fee, hands a part of it over to the practitioner behind the patient's back, at once the following legal consequences result: "If it be right to speak of the practitioner as having been the patient's agent, the agent has taken a surreptitious profit in the course of his agency. An agent must not enter into any transaction in which he has a personal interest in conflict with his duty to his principal, unless the principal is fully informed and consents." If the patient is unaware of what is going on behind his back, he may,

when he finds out the facts, insist that the practitioner (as his agent) shall account to him for the secret profit he has received. The agent must hand it over to the patient who otherwise can bring on an action for the return of the money. No plea could be made that such fee-sharing was a "trade-usage", for "the court would have to be convinced that the practice was reasonable and that it was not only common, but general."

Again, "The crux is the legal position in the question whether the practitioner acts as agent of the patient in obtaining the services of, and making the necessary arrangements with, the consultant. This is a question of fact. Agency may be inferred from the conduct of the parties. An agent is a person employed to bring the employer into legal relations with a third party. It is true that in authorizing his doctor to obtain for him the services of a consultant, the patient is asking the doctor to do something for him gratuitously. But dichotomy puts an end to the gratuitous element in the transaction. Moreover, where the transaction is gratuitous, the only legal difference is that the parties may have no legal remedy if the transaction is not carried out at all. Again, the patient may pay the consultant direct, but the fact does not negative the inference of agency."

"The Neurasthenic Reaction", by Dr. W. T. B. Mitchell, chief psychiatrist, D.S.C.R., Ottawa, Canada, propounds certain important questions in relation to neuropsychiatric cases.

Since 1914 there have been reported from the Canadian Expeditionary Forces approximately fourteen thousand neuropsychiatric cases. Sixty-six hundred belong to the group known as the psychoneuroses. If my first estimate has been correct, approximately four thousand of these cases have been reported as cases of neurasthenia. This suggests very definitely either that this entity is one that deserves very special consideration, or that an enormous number of reactions have probably been incorrectly placed in this category.

1. Is a psychoneurosis making its appearance in a patient who has been under treatment for pulmonary tuberculosis directly related to the original disabling factor?
2. Is the psychoneurosis related specifically to the treatment period?
3. Is tuberculosis arising in a patient who has been in receipt of treatment for a condition diagnosed as a psychoneurosis to be regarded as in any way related to the mental condition?
4. Is it possible to clinically differentiate between the psychoneurosis frequently called neurasthenia and pulmonary tuberculosis?

In order to have a common ground upon which we may deal with this question, it would appear nec-

essary that we have a mutual understanding as to what neurasthenia is.

Neurasthenia is known by its constant manifestation as a fatigue neurosis. Effort, physical or mental, is accompanied by extraordinary subjective fatigue reaction. The individual is incapable of sustained action. There may also be symptoms referable to the digestive, circulatory, respiratory, or other systems such as discomfort after taking food, palpitation, precordial pain, shortness of breath, dizziness, tight feeling in the head, etc. The patient may confine his complaints pretty much to one system or they may be enormously varied and he may present a very definite hypochondriacal trend. It is most unusual to find a pure fatigue reaction without the additional hypochondriacal trend referred to above being present in some degree. This then is very briefly how neurasthenia manifests itself. Now the question arises: What is it? Does it always or frequently occur in individuals who through some constitutional lack have throughout life been incapable of prolonged effort; or is it the external manifestation of an unhealthy mental reaction, inadequate to meet an environmental situation?

To answer the first question, does this condition always occur in individuals who have an inherent physical defect? There is undoubtedly the type of man who throughout his life very definitely lacks resistance; who experiences unusual fatigue on moderate exertion; whose credit balance is readily dissipated. This type, however, constitutes a very small group, and does not present a serious problem. The neurological advisor to the Board of Pension Commissioners tells me that there are at the present time approximately eight hundred cases in receipt of pensions for conditions diagnosed neurasthenia. Probably under twenty will fall into the group discussed above. When such an individual has over-stepped the safety line, rest is essential to restore his normal balance.

To answer the second question: does the neurasthenic reaction, so-called, signify primarily an unhappy or inadequate psychological reaction? Is this fatigue syndrome, accompanied as it may be, by the result of a mental attitude? When we speak of psychological force we do not know exactly what it is that we are talking about. We do not know what electricity is, but we have in some degree solved the problem of dealing with and directing this form of energy. In the same way we know that psychological force is a constant accompaniment of biological activities. We know something of how this force may be used, of the effect to be obtained by its useful direction and wise modification.

We are as individuals variously constituted physically and psychologically according to our inheritance. We cannot deny the importance of this transference of qualities. We are modified physically by the sort of soil in which we grow, the stresses to which we have been submitted. We are modified similarly from a psychological standpoint by every experience and contact. Depending on our mental equipment we meet our various situations of every-

day life easily and with poise, or uneasily and with upsetting effects. The failure to make a correct and complete accommodation in the face of any situation always results in a psychological disturbance. The disturbance may be so slight as to pass unnoticed except to ourselves, and we very seldom know ourselves sufficiently well to recognize the cause or the significance of the emotional upset. The latter may be so pronounced as to more or less destroy completely our efficiency and to manifest to others in the form of a psychoneurosis. I am of the opinion that the very large group who, perhaps with some justification, are described as neurasthenics, fall under this class, that is that their psychoneuroses result directly from an inadequate attempt to satisfactorily adjust themselves to a present situation.—The Canadian Medical Association Journal.

ATTENTION—FORMER ILLINOIS DOCTORS

Will any and all doctors, former residents of Illinois, or descendants of pioneer physicians of the "Illinois country", communicate at once with the Committee on Medical History, Illinois State Medical Society, No. 6244 North Campbell Avenue, Chicago, Illinois?

Under the sponsorship of the Illinois State Medical Society there is in preparation "A History of Medical Practice in the State of Illinois" that must go to the printer at an early date. In order that this volume may be accurate and complete, all possible assistance is asked from every source, as to personal data and experiences, including diaries, photographs and similar documentary mementoes of pioneer Illinois doctors and of progressive phases of medical practice, as well as of achievements in fields other than those of medical science. Prompt return in good condition is promised for anything loaned the committee, the personnel of which is: O. B. Will, M.D., Peoria, Illinois; C. B. Johnson, M.D., Champaign, Illinois; Carl E. Black, M.D., Jacksonville, Illinois; George A. Dicus, M.D., Streator, Illinois; James H. Hutton, M.D., Chicago, Illinois; Chas. J. Whalen, M.D., Chicago, Illinois, chairman.

The scope of the volume will range from the discovery of Illinois to modern times. Through this period of over 250 years there is much of thrilling interest to be detailed. Collection of the human interest data can come only from the families or closest friends of the pioneers, many of whom long ago removed to distant sections of the United States. Through the kindness of editors of various medical journals, it is hoped to reach those who may be able to loan valuable material to the compilers who guarantee careful guardianship of anything sent for publication.

Some of the subjects touched will be: physicians accompanying early explorers; government surgeons and physicians in attendance at the forts; early medicine in Illinois; theories of healing from the days of the Aborigines through the mound-builders; French and English explorers; the ante-boundary days;

sporadic settlers; medical attendants for the covered wagon; herb doctors; primitive surgery; medicine and missionaries; migration of pioneer physicians to new territory; the "circuit-riding" and "saddle-bag" doctors and their burdens, triumphs and perils; pioneers as "utility citizens"; Illinois men in war time—there are four conflicts to be considered since the opening of the Nineteenth Century; Illinois medical men away from medicine, i. e., in industry, in science, in belles-lettres—art, music and literature.

Photographs especially are desired. Also copies of letters, statements of "cures" and "new methods", diaries and the like.

MORTALITY FROM MALARIA IN ITALY

The mortality 0.72 per 1000 inhabitants in 1887 fell to 0.66 in 1914, and although the war caused an increased incidence of malaria in Italy, as in other countries, the mortality was only 0.1 per 1000 inhabitants in 1920.

OCCUPATIONAL DISEASE AMENDMENT TO EMPLOYES' COMPENSATION LAW

By an amendment to the Employees' Compensation Act, approved by the president June 6, 1924, it is provided that compensation shall be paid for occupational diseases, or in the language of the amendment "any disease proximately caused by the employment". This action makes clear, beyond question, the intent of congress to provide compensation and medical and hospital care for occupational diseases as well as for the results of accidental injuries sustained while in the performance of duty.

This application of the law to cover occupational diseases is not new, having been followed by the compensation commission for six years until interrupted because of a decision of the comptroller general construing the law as applicable to injuries by accident only and refusing approval of payments on account of occupational diseases.

It should be clearly understood that the law as construed heretofore and as now amended does not permit the payment of money compensation or the furnishing of medical care for any disease unless the result of an accident or unless its direct causal relationship to the employment is shown. The mere fact that disease develops after the employe enters government service cannot be accepted as sufficient basis for an award of compensation. The common diseases such as colds, pneumonia, tuberculosis, typhoid fever, rheumatism and the like, which may be and usually are due to causes entirely outside the employment, can very rarely and only under most unusual conditions be the basis of an award under the compensation law.

Because of the requirement of the law that claim must be made within a year, and because of the difficulty of establishing the facts after a lapse of time, injured employes should give notice of injury to the

official superior without delay and should make claim to the commission. The official superior also should make prompt report of all the facts to the commission after such investigation as is necessary and practicable to verify or test the claims of the employe. The official superior should not authorize in behalf of the compensation commission any medical care except in accordance with the regulations of the commission.

U. S. Employees' Compensation Commission,
(Mrs.) Bessie P. Brueggeman,
Chairman.

June 9, 1924.

Washington, D. C.

COMMITTEE ON MATERNAL WELFARE

A nation-wide movement for improved conditions in maternal welfare is being inaugurated through the combined efforts of a joint committee representing the American Gynecological Society, the American Child Health Association, and the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons.

An appeal is being made to the secretaries of the State Medical Associations to enlist the co-operation of their members and also of the constituent county medical societies to stress the subject of obstetrics in the programs of their meetings and try to have more papers and discussions on the topics vital to this most essential branch of our work.

The reason for the propaganda is that recent statistics are published showing a deplorably high mortality in maternity work in our country. A Washington report gives the United States the unenviable position of third from the highest death rate in both sepsis and eclampsia among the seventeen civilized nations of the world. These two accidents are almost absolutely preventable. Among the reports from sections where pre-natal care is taught and where aseptic care observed in labor the mortality is reduced one-third to one-half the average in the same region.

So many other features while not so tragic demand reform in obstetrics that the committee hopes within five years that not only the mortality of mothers and children may be reduced just as the profession has cut down the death rate in typhoid fever, tuberculosis and diphtheria in recent decades; but also that obstetrics may be again placed on the plane with internal medicine and surgery, a dignity which it formerly occupied in the colleges and in the profession, as one of the three great branches of the healing art.

This is a work of education, and it demands the co-operation of teachers and specialists in obstetrics, general practitioners, nurses, and the general public, to accomplish so ambitious a program.

A copy of the annual report to the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons is sent under separate cover de-

tailoring some of the conditions found and showing the more hopeful outlook for the future.

(Signed)—

Fred L. Adair, M.D., Minneapolis,
Henry Schwarz, M.D., St. Louis,
Robert L. DeNormandie, M.D., Boston,
Geo. W. Kosmak, M.D., New York,
Frank W. Lynch, M.D., San Francisco,
Ralph W. Lobenstine, M.D., New York,
Wm. Clark Danforth, M.D., Evanston, Ill.
Geo. Clark Mosher, M.D., Kansas City, Mo.

SOCIETY PROCEEDINGS

Delaware County Medical Society

The Delaware County Medical Society met on the evening of September 2, at Manchester. After a six o'clock dinner, the scientific program was presented by Dr. F. A. Moore, Dr. Merrill Myers and Dr. Julius Weingart, all of Des Moines. At the close of the scientific program, Dr. F. M. Fuller, Keokuk, president of the State Society and Dr. Tom B. Throckmorton, secretary, explained the plans of the State Society whereby every struggling county society willing to cooperate with the State Society, could be put on its feet again and started off again with renewed vigor.

Dr. Fuller is a wonder when it comes to giving a talk full of pep. Dr. W. B. Small of Waterloo, one of the trustees, was present, and his advice was of material assistance in starting things off the right way.

Dr. A. G. Shellito of Independence, councilor of the third district, spent several days in Delaware county prior to the meeting and deserves much commendation for his wise counsel and organizing ability for such contributed largely to the success of the meeting. About thirty-five doctors were present from Delaware and adjoining counties. This is the first meeting held under the auspices of the State Society in an attempt to enthuse and revivify every struggling county society.

Dubuque County Medical Society

Practically all of the doctors of Jo Daviess county attended the annual meeting of the Dubuque County Medical School held at Dubuque. Loud indeed, according to the Galena Gazette, is the praise of the Jo Daviess County Society for the royal entertainment afforded them by their hosts. The object was more of a social meeting than of a business session, therefore the twenty-one reels of motion pictures were as entertaining as they were instructive. The pictures were devoted principally to surgical demonstration. The photo displays were in story form, one of the topics interestingly presented was the prevention of baby sore eyes and the care and treatment thereof should any ailment develop. Other technical subjects were graphically explained through the motion pictures. Following the demonstration, a "Question Box" was in order in which questions per-

taining to the profession were asked, then discussed at length.

Getting back to the purely social side of the session, the ball game in the afternoon between the Dubuque Medics and the Galena Medic and "Moonshiners" was the headliner. Such a game, well the score 19 to 1, (some claim two) speaks for itself. Galena had "Nick" Kilburg as its twirler and Wilbur Allen as the reception committee for "Nicks'" slick ones. Dubuque had several pitchers, the principal one being the world famous, ambidexterous tosser, Striebble, with Meyers behind the bat. One of the main features of the game was the special short cut base running of Grove of the Moonshiners who almost made a home run. The game was also noted for another reason, because it was played by teams said to be the only medic baseball teams in the United States.

Before the meeting adjourned after the banquet, plans were discussed for the annual July picnic of the Jo Daviess County Society, which will be held at Camp 19, the Dubuque doctors to be the guests of the Jo Daviess county fraternity.—Dubuque Times-Journal.

Hardin County Medical Society

The annual mid-summer meeting of the Hardin County Medical Society was held recently. The meeting was attended by about forty-five doctors. Appearing on the program were Dr. Oliver J. Fay of Des Moines, a leading physician of that city, and Dr. Hugh H. MacKechnie, a prominent physician of Chicago. The doctors met at the opera house at three o'clock where the following program was given: Paper, Selected, Dr. Oliver J. Fay, Des Moines. Hemorrhage in Obstetrics, Dr. Carl C. Bickley, Waterloo. The Pre-School Age Child, Dr. James E. Dyson, Des Moines. Metastatic Tumors in Bone, Dr. Hugh H. MacKechnie, Post Graduate School of Chicago.

Following the program a delightful and satisfying banquet was served to the doctors and their ladies at the parlors of the Lutheran church, by the Gleaner Society.

Besides the doctors of Hardin county several from Story City, Nevada and other surrounding towns were invited. The meeting was conceded to be the best ever held by the society, Dr. R. R. Gaard is president of the society, and invited the society here as his guests.

Pocahontas County Medical Society

The Pocahontas County Medical Society met at the Rolfe Golf Park on Tuesday and enjoyed a picnic dinner and a get-together meeting. The following physicians and their families were present: Drs. Hollis and Wilson of Rolfe; Loving and Bagby, Laurens; Parker, Kepler and Riordan, Pocahontas; Townsend, Gilmore City; Studebaker, Ackers and Knowles, Fort Dodge; Peterson and Scott, Iowa City; Sheldon, Havelock; Wyatt of Webster City.

Inasmuch as this was a non-scientific meeting, Dr.

Bagby read a paper on Some Difficulties Peculiar to a Country Practice, which was amusing and entertaining as well as truthful.

Everyone having brought a well filled basket, the ladies prepared a five o'clock dinner on a large camp table in the park, which was accompanied by hot coffee and ice cream. It is needless to say that everyone enjoyed the day and the spirit of good fellowship was furthered.

Ringgold County Medical Society

The Ringgold County Medical Society held a meeting on the afternoon of August 10 at Mount Ayr. The scientific program was presented by Dr. Frank Ely, Dr. Charles Ryan and Dr. Julius Weingart, all of Des Moines, after which, Dr. F. M. Fuller, Keokuk, president of the State Society, and Dr. J. W. Cokenower, Des Moines, chairman of the board of trustees made rousing talks outlining the plans of the State Society and expressing their willingness to help put every struggling county medical society back on its feet again. There were about twenty-five doctors present from Ringgold and adjoining counties.

Full credit must be given to Dr. F. A. Bowman, Leon, councilor of the eighth district for the success of this meeting as he not only started the ball rolling but was untiring in his efforts to carry the plans to a successful conclusion.

Scott County Medical Society

Scott County Medical Society met Tuesday, September 2 at the Chamber of Commerce, Davenport, Iowa. Fifty-five men and women were present, a number of visitors from surrounding towns and from Moline and Rock Island being present. Plans were laid for holding a golf tournament among members of the County Society, a cup to be awarded the winner. Dr. A. J. Peters of Walcott was elected to membership and the application of Dr. G. W. Doolen was given its first reading.

The Iowana Farms near Davenport have started the production of certified milk and the milk commission from the county society was appointed, Drs. Ott, Rendleman, Kuhl, Foley and Dunn being named. Dr. Dunn told of the visit of the commission to the farms and finding every procedure up to requirements. Lantern slides were shown of the methods used.

Dr. A. R. Erskine, Cedar Rapids, read an interesting paper on Fractures of the Wrist, illustrated with lantern slides. He urged good alignment in reduction, immobilization in supination, and frequent x-ray checking for good results. Discussion by Drs. Bendixen, Kulp, H. Decker, Lachner and Donohoe was stimulating.

The movie reel, The Complex Motor Phenomena of the Stomach, arranged by Dr. Lewis G. Cole and first shown at the Radiological meeting in Chicago was exhibited and enthusiastically praised.

Paul A. White, M.D., Sec'y.

Shelby County Medical Society

The Shelby County Medical Society held a meeting at the Field Club, Harlan, September 4, 1924. The members of the neighboring county society, Audubon, were invited and a number attended, returning a visit we made to one of their meetings earlier in the year.

Following a dinner, Dr. Macrae of Council Bluffs, by the courtesy of Mr. Pixley, Eastman Kodak representative, presented moving pictures of several operations performed by himself and his associates at the Jennie Edmundsen Hospital at Council Bluffs. The teaching possibilities of the machine, which is called the Cine-Kodak, and which is very portable, allowing any type of moving pictures to be taken and reproduced, was particularly emphasized, as well as its value in checking up on technique, etc. Dr. Karl Werndorf of Council Bluffs gave a paper on Diseases and Conditions of the Spinal Column. Dr. O'Keefe of Council Bluffs gave a short talk on general medical topics. The meeting was fairly well attended and was much enjoyed.

A. L. Nielson, Sec'y.

Tama County Medical Society

The Tama County Medical Society met at Conant's park near Gladbrook, Iowa, Wednesday, August 20. After the business of the session was finished, the program was taken up. There was a most interesting paper on the new Germicide, Mercurochrome 220-Soluble. After the reading of the paper the discussion was opened by Dr. Allen of Tama, with a general analysis of the history and uses of this new drug, after which each member present took part in the discussion.

It was a most interesting session and all the members present expressed themselves as being well repaid for coming.

Those present were, Dr. and Mrs. McDowell and Dr. and Mrs. Meyers, Gladbrook; Dr. and Mrs. Launder, Garwin; Drs. Crabbe, Farnham, Parsons and wives, Traer; Dr. Wagner and wife, Dysart; Dr. and Mrs. Fee, Toledo, and Dr. and Mrs. Whalen and Dr. Allen, Tama.

The next meeting will be held at the Conant park in October.

Upper Des Moines Valley and Northwestern Iowa Medical Societies

Upper Des Moines Valley Society, and the Northwestern Iowa Medical Society met for a two days' session at the Terrance Park Casino, June 26 and 27. More than 100 physicians were in attendance.

Papers were read by Dr. B. H. Haynes, St. James, Minnesota; Dr. W. L. Mendenhall, Boston; Dr. Frank L. Secoy, Sioux City; Dr. L. G. Hill, Sioux Falls; Dr. W. F. Carver, Fort Dodge; Dr. M. J. Kenefick, Algona; Dr. Prince Sawyer, Sioux City; Dr. Geo. O. Solem, Chicago; Dr. C. E. Dakin, Mason City; Dr. V. C. Hunt, Rochester; Dr. B. A. Neilgaard, Sioux City; Dr. G. G. Cottom, Sioux Falls; Dr. A. J. Pacino, Chicago; Dr. William Jepson, Sioux City, and Miss Josephine Gaston, representing the

American Medical Association. Dr. Oliver J. Fay, Des Moines; Dr. J. C. Rockafellow, Des Moines; Dr. A. R. Colvin, St. Paul; Dr. Arthur Steindler, Iowa City; Dr. A. W. Adson, Rochester; Dr. Geo. M. Crabb, Mason City; Dr. Vincent J. O'Connor, Chicago; Dr. P. A. O'Leary, Rochester; Dr. C. J. Saunders, Fort Dodge; Dr. Charles T. Maxwell, Sioux City; Dr. Charles Ryan, Des Moines; Dr. Frederick J. Plondke, St. Paul; Dr. J. W. Kime, Fort Dodge; Dr. C. P. Howard, Iowa City; Dr. A. J. McLaughlin, Sioux City, and Dr. E. C. Junger, Soldier, Iowa.

Iowa Clinical Medical Society

The Iowa Clinical Medical Society met at Waverly, August 2, with about twenty members present. Dr. C. A. Waterbury of Waterloo, a charter member of Iowa Clinical Medical Society, was elected president and Dr. Russell Doolittle of Des Moines was re-elected secretary and treasurer.

Dr. William Rendleman of Davenport, retiring president, presided over the morning session at the Iowa Lutheran Hospital. Cases were presented by Drs. W. L. Bierring, Granville N. Ryan, Lee F. Hill, Fred Moore, J. T. Strawn and J. S. Weingart.

The Ophthalmologists and Otologists of Waterloo have organized a society for the advancement of this special branch of medicine, with Dr. W. B. Small, president, and Dr. F. H. Reuling, secretary.

MEDICAL NEWS NOTES

A serious outbreak of infantile paralysis has appeared at Clinton. Dr. Don M. Griswold, state epidemiologist, was called in consultation, and later Dr. E. C. Rosenow of the Mayo Clinic. The Rosenow serum was freely employed, with apparent excellent results. Both Dr. Griswold and Dr. Rosenow highly commended the efficient manner in which Dr. H. R. Sugg of Clinton Health Board managed the outbreak, which threatened to become extremely serious, but is now under control.

Dr. Frederick R. Green, editor of "Health", Chicago, is the editor of a series of syndicate papers on health now beginning to run in many country papers of America.

NEW ADVERTISER

We are pleased to announce that a new advertising friend makes his first appearance on our pages with this issue. Noyes Bros. & Cutler, Inc., of Saint Paul, are a good sound reliable firm, and their patrons will receive courteous treatment. Their partial payment plan will appeal to many and is worth investigating. Read their advertisement on page 15.

PERSONAL MENTION

Dr. H. B. Young of Burlington will have completed fifty years of practice at the close of this year, forty-five years in Burlington and is still in active practice. When the "Reorganization" plan of administration was adopted, Dr. Young differed from the majority of his fellows and resigned his membership in the Iowa State Medical Society. We sincerely hope he has regretted his action, as certainly we have, as he was a member of great value. Not only did he contribute many valuable papers, but his advice and council were helpful in the work of the Society. We hope that with the completion of fifty years of honorable medical work, Dr. Young will return to the medical fold. He may be sure of a cordial welcome.

Dr. C. J. Saunders and Dr. T. J. Dorsey of the Fort Dodge clinic, have severed their connection with the clinic and are moving onto the sixth floor of the Carver building. They will occupy suite 622 to 627. Associated with Dr. Saunders and Dr. Dorsey will be Dr. J. E. Galvin of Clare, who is moving to Fort Dodge to continue the practice of medicine. Dr. Galvin is a graduate of the University of St. Louis and took his internship at the St. Louis City Hospital. For the past five years he has practiced at Clare. He has recently returned from New York City where he took two months' post graduate course in internal medicine.

Dr. L. L. Leighton has returned to Fort Dodge and opened an office as general practitioner in suite 222 in the Carver building. Dr. Leighton who is a graduate of the medical department of the Iowa University, was formerly connected with the Physicians and Surgeons Clinic. Because of his health he was obliged to leave here a year ago and has in that time been in the West and taken special courses at the State University.

Dr. Carter Hamilton of Iowa City has joined force with Dr. E. G. Bannick and after September 1st will join the latter in the practice of medicine in Wilton. Dr. Hamilton is a graduate of the State University of Iowa and, like Dr. Bannick practices both medicine and surgery.

Dr. C. T. Grattidge, who has been taking care of Dr. L. L. Carr's practice while he has been away on a three months vacation in California, has decided to locate at Farmersburg, and will be ready for practice there September 1st.

Dr. J. W. Cokenower has returned from a motor-trip to the northern lakes and reported fishing fine.

Dr. E. B. Mountain left recently for Washington, D. C., to give an illustrated address before the annual convention of the National Fraternal Congress of America on The Relation of Focal Infections to Life Insurance.

Dr. J. W. Cokenower was host at a luncheon at the Harris-Emery tea room, honoring the trustees of the Iowa State Medical Association, who were in Des Moines for their quarterly meeting.

Dr. F. H. Fillenworth has purchased the eye, ear,

nose and throat practice of Dr. H. M. Curtis and will take over the practice September 1st, when he will arrive from Iowa City where he has since disposed of his practice here in Iowa.—Charles City Press.

Dr. Glenn W. Doolen, former interne at Mercy Hospital, has been appointed county physician by the Scott county board of supervisors to succeed Dr. George Braunlich. Dr. Doolen is at present associated in the practice of medicine with Dr. P. A. Bendixen. He resides at 1220 Main street, Davenport, and will begin his duties as county doctor immediately. The resignation of Dr. Braunlich who for the past three years has served as county physician, was occasioned by his increasing private practice and lack of time to devote to the county work. The retiring physician was given a vote of thanks in appreciation of his services by the supervisors.

Dr. A. G. Byers of Lake View has moved to Coggon.

Dr. O. F. Parish of Grinnell has arranged to take a six weeks' special course in surgery and medicine at the Carlisle Medical College. This is a government institution. The government had two scholarships to offer west of the Mississippi and Dr. Parish is offered one of them. It will be remembered that Dr. Parish served during the war in the medical department of the government.

Dr. F. H. Fillenwarth of Iowa City has arrived in the city and has taken over the practice of Dr. H. M. Curtis. Dr. Fillenwarth has been at the University Hospital in the eye, ear, nose and throat department for the past two years previous to which he practiced for seven years at Melvern, Iowa.

Dr. C. E. Thompson of Des Moines has located in Winterset, occupying the offices of W. L. Smalley, over McCombie's drug store. Dr. Thompson has practiced medicine in Iowa for fifteen years, being in the genito-urinary department at the Mayo Clinic in 1902 and spent last year at Bellevue Hospital, New York, doing special surgery.

This month's advertising pages contain some of the very latest developments in medical science. Read them carefully.

MARRIAGES

Dr. H. E. Farnsworth of Storm Lake and Miss Laura Holmes, also of Storm Lake, were married August 2.

OBITUARY

Dr. Frederick J. McAllister of Hawarden, died at his home June 19, 1924, of pernicious anemia, at the age of forty-six years.

Dr. McAllister was born in Iowa county, Iowa, November 22, 1877. Graduated from Keswick high school, and in medicine from the Iowa University School of Medicine in 1902. Immediately after graduating in medicine, he located in Hawarden, where he practiced twenty-two years.

September 10, 1902, he married Miss Martha Freeman Kizer of Tipton, to whom were born two children, who, with Mrs. McAllister, survive him.

Dr. McAllister early in his practice received public recognition and in 1903 was appointed surgeon for the Chicago & Northwestern Ry. Co., and later surgeon for the Chicago, Milwaukee & St. Paul Ry. Co. In 1911 he joined with Dr. A. J. Meyer in a partnership for practice of medicine.

At the outbreak of the World War he entered the United States service with the rank of captain in the medical corps and after serving at different stations, was transferred to the 78th Division for service in France. After the armistice he was again transferred, now to the 3rd Division, and with his Division was sent with the Army of Occupation to Coblenz. It was at this time he began to feel the approach of the disease which at last proved fatal, and in January, 1919, was sent home and received his discharge at Camp Dodge.

Dr. McAllister, as might be expected of one who was genuinely a physician, became a member of various medical organizations. He was a member of the Sioux County Medical Society, the Iowa State Medical Society, a Fellow of the American Medical Association, and a member of the Sioux Valley & Northwest Iowa Society, of the American Railway Surgical Association, and the Chicago & Northwestern Ry. Surgical Association, all of which he diligently attended.

Dr. McAllister in addition to his duties as a physician and surgeon, participated in local welfare activities, believing it to be the duty of the trained physician to contribute his share to the advancement of the community in which he lived. This devotion of Dr. McAllister was recognized by his people, who conferred upon him high honors, and in 1920 he was elected mayor of Hawarden, and for twelve years elected a member of the school board, all of this time serving as president. It is not strange that one who devoted his energies to his profession, to the welfare of his city, and to whom came the final call at the early age of forty-six years, with so much for him and the community in the future, that his death should be felt as a personal loss by all.

Dr. Alonzo L. McNeill, one of Epworth's most prominent citizens died at his home August 10, 1924.

Alonzo Lyons McNeill was born at Eads Grove, near Manchester, Iowa, September 21, 1857, son of David and Jane McNeill, and died at his home in Epworth, Iowa, at 5 o'clock a. m. August 10, 1924. He lived in Manchester thirty-eight years, marrying Esther Williams, also of Manchester on December 27, 1881.

Dr. McNeill was a graduate of Chicago Homeopathic Medical College, and practiced in Epworth twenty-nine years.

He was a member of Iowa lodge, No. 348, I. O. O. F. of Epworth, a charter member of K. of P. lodge of Manchester, later transferring his membership to the Dubuque chapter of the Woodmen of the World, Modern Woodmen of America, Lodge No.

148 of Mystic Workers of the World, National Geographic Society and Dubuque County Medical Association. For many years he was a member of the town school board, working for the betterment of Epworth's school system, and was a trustee of Epworth Seminary and its successor, Epworth Military Academy.

Dr. G. H. Clemons of Storm Lake died at his home July 16, at the age of thirty-seven years, from internal obstruction.

Dr. F. S. Grimes of Deep River, died recently at the age of ninety-one years. He served as a surgeon in the Civil War.

Dr. Grimes was born at Springfield, Massachusetts, April 15, 1834, and died August 6, 1924. He was a graduate of Columbia University in medicine and from Bellevue Hospital Medical College, New York. He came to Deep River in 1892.

Dr. George W. Lee of Sheffield died at his home August 18, 1924. He was born in Corning, New York, May 31, 1847 and graduated from Rush Medical College in 1869 and first located at Plattville, Wisconsin, where he practiced thirteen years.

In 1878 he married Miss Eva May Jones of Plattville, and in 1882 removed to Sheffield, where he practiced until 1891, when he moved to Mason City. In 1908 he moved to Cumberland, Wisconsin and again in 1920 moved to Sheffield, where he practiced up to the time of his death.

Dr. O. O. Ayer died at his home in Arlington, August 13, 1924, at the age of seventy-four years. He was born in Wisconsin August 17, 1850. Graduated from the Keokuk Medical College and began practice in medicine at Wadena, Iowa, in 1876. September 28, 1877, he married Emma Viola Stevens of Lime Springs and located at Brush Creek (now Arlington).

He is survived by his wife and a son, Dr. Frank R. Ayer of Leeds, North Dakota.

Dr. Joseph C. Barringer, pioneer physician and surgeon of Mahaska county and prominent resident of Oskaloosa, passed away at Mahaska Hospital at 5:00 o'clock a. m. August 27, 1924, following a recent operation, aged seventy-five years, two months and twenty-eight days.

The doctor had been failing in health through a number of months but had been at his office until almost the day of the operation, which was of emergency character.

Ernest LaPlace, Philadelphia, medical department of the Tulane University of Louisiana, New Orleans, 1884; University of Paris, France, 1886; Medico-Chirurgical College of Philadelphia, 1894; died suddenly May 15, of heart disease.

Dr. LaPlace was born in New Orleans, July 9, 1861. He was professor of surgery at the Medico-

Chirurgical College of Philadelphia (now the Graduate School of Medicine of the University of Pennsylvania), 1892-1924, and on the staff of the Medico-Chirurgical Polyclinic and Misericordia Hospitals, the American Hospital for Diseases of the Stomach, Philadelphia, and the State Hospital for Criminal Insane, Farview. He was a member of the Philadelphia Pathological Society, the Philadelphia Academy of Natural Sciences, the French Society of Anatomy, and at the time of his death was president of the Medical Club of Philadelphia. Dr. LaPlace was an officer d'academie (Palme Academique) and a member of the Legion of Honor of France. He was an inventor of one of the first forceps for intestinal anastomosis, and the author of many articles on surgery of the brain and intestines.—Journal A. M. A.

Among distinguished American physicians was Dr. Beverley Robinson of New York, one of the men who belonged to the whole country. He was born in Philadelphia March 22, 1844. His father was Moncure Robinson, the engineer who built the Reading Railroad and Richmond, Fredericksburg & Potomac Railroad. His mother was great grand daughter of Edmund Randolph, first attorney general of the United States. He graduated from the University of Pennsylvania in 1862, and in medicine from the University of Paris. He studied diseases of the nose and throat under Sir Morrell Mackenzie of London and began practice in New York. Dr. Robinson was at different times connected with many of the New York hospitals with St. Luke's in particular, for forty years. He was one of the founders of the Association of American physicians. During the World War he was one of the six American physicians to receive an honorary medal from the Faculty of Medicine of Paris.

He took part in the Gettysburg campaign during the Civil War. He was a frequent contributor to periodical medical literature, particularly medical historical papers. He died of sclerosis of the arteries.

The following resolution was drawn up and passed at the recent meeting of the Austin Flint-Cedar Valley Medical Society at Mason City, Iowa, July 8, 1924.

Whereas: Death has removed from this life our colleague and fellow member, Dr. Thomas A. Hobson.

Be It Resolved: That we have lost an active member from our society, a true and loyal friend, a capable and efficient physician and a lovable and delightful companion.

Moved: That a copy of the above resolution be sent to his widow and a copy to be recorded in the minutes of this society and published in the Iowa State Medical Journal.

Signed,

Dr. W. A. Rohlf,
Dr. P. A. Gardner,
Dr. L. C. Kern.

BOOK REVIEWS

THE CIRCULATORY DISTURBANCES OF THE
EXTREMITIES

Including Gangrene, Vasomotor and Trophic Disorders, by Leo Buerger, M.A., M.D., New York City; with 192 Illustrations, Five in Color. W. B. Saunders Company, 1924.

This important book presents a study of an interesting subject in surgery relating to changes incident to vascular and nervous disturbances. The purpose of this volume is set forth in a statement presented in the introductory chapter. "We have in mechanical hydrostatic, nervous and autonomic capillary forces a combination of partly passive, partly actively functioning links; that may intrude upon the clinical picture." The author in presenting this plan of interpreting the complex clinical picture considers anatomical data; the minute structure of the capillary vessels, arteries and veins, illustrated by numerous excellent cuts. This is followed by a chapter on the vasomotor nervous system, and another chapter on physiology of the peripheral circulation. This chapter is of fundamental interest and importance in the plan proposed. Associated is the chapter on methods of investigating capillary circulation.

Chapter nine is a consideration of the general circulation under pathological conditions; local circulation; functional disturbances of peripheral circulation; collateral circulation; circulation in the extremities under pathological conditions; clinical manifestations. Following these mechanical considerations of the circulation are the trophic functions of the nervous system in the production of ulcers, necrosis, failure of wounds to heal, etc. Several theories are presented to explain neurotrophic disorders.

After presenting these, comes the general consideration of thrombosis, including several types and causes and the angitis in the form of arrested circulation—gangrene, under this head, is included the symptoms of thrombosis, diagnosis and tests in relation to the circulation.

Up to this point the author has considered the mechanical and neurotrophic causes of disturbed circulation, he now enters upon a consideration of injuries to blood-vessels, including treatment.

Commencing with chapter 41 is a series of chapters on thrombo-angitis obliterances—general clinical concept, stages, types and symptoms, pathology and histo-pathology, diagnosis and treatment.

With chapter 66 comes athero or arteriosclerotic disease, pathology and treatment; several chapters are included in this discussion.

Syphilitic and other types of disease of the arteries and veins are presented. Considerable space is given vasomotor and trophic neurosis, including traumatic vasomotor spasm, Raymond's disease, scleroderma, multiple neuritic gangrene.

We have omitted several important subjects. The book is one of unusual interest to the physician and surgeon, in that it presents much valuable material

concerning disturbances of the circulation of the extremities which come to the practitioner. The author has investigated the subject with great care.

AN INTRODUCTION TO THE STUDY OF
MENTAL DISORDERS

By Francis M. Barnes, Jr., M.A., M.D.
Published by C. V. Mosby Company, St. Louis.

The first impression made upon the reader of Dr. Barnes's book is of an easy flowing style, giving rise to the idea that the subject matter was originally presented in lecture form, which idea is borne out by reference to the preface. Here we find that the first part is an introduction to the study of mental disease intended for third year medical students, while the second part is for those in the fourth year. With this in mind, we are able to appreciate the method the author employs with reference to the results he hopes to obtain.

The historical introduction reviews briefly the history of psychiatry from its beginning through various epochs to the present time: the primitive epoch when mental disturbance was looked upon as evidence of supernatural visitation; the epoch of ancient medicine when insanity was considered the result of brain diseases; and the epoch of transition with a return to older considerations during the period of the dark ages, and terminating in the modern period characterized by conceptions of insanity based upon anatomy and physiology, and bringing with it a more humane and intelligent handling of the unfortunate patients.

The three prominent general conceptions of the causation of insanity are enumerated: Anatomic, clinical, psychologic; all of which have been found to be essential to our understanding and progress in psychiatry. Following consideration of these methods of study, we come to a chapter on Medical Hygiene and Social Psychiatry. Here we find contrasted the older method of caring for those whose reactions to their environment became so abnormal as to require action by the community by relieving them from contact with that community, and the more modern concept of placing these unfortunates in an environment where their contacts are limited for the safety of society as well as in some cases for themselves, yet where as many normal contacts as possible are provided. The older term of "asylum" is giving way to the more modern designation of "hospital" showing the departure from the former idea of almost purely custodial care, and the indication of at least a hope of improvement through treatment, largely in the line of psychotherapy. Further, attempts are being made through the agency of the psychiatric social worker toward prevention of mal-adjustments to the environment.

Continuing his approach to the study of mental disease, the author discusses the various directions in which the deviation from the normal are manifested such as attention and perception, hallucinations, the emotional field, association of ideas, etc. He con-

siders the causes of mental disease and the general treatment with particular emphasis upon hydro- and occupational-therapy, and psycho-therapy which latter has for its primary object a change of viewpoint, and is not to be confused with the layman's ideas of psycho-analysis. The chapter on history taking and on classification of mental diseases concludes part I.

In part II, that intended for senior medical students, we find the various forms of mental disease treated briefly yet clearly. The chapter on Mental States with Endocrine Disorders is especially interesting, and contains a warning against the tendency to over-use a comparatively newly discovered causative agency when some obscure and baffling combination of mental symptoms is under consideration.

As the author says, this work is not intended as a complete presentation of mental disease, but it certainly fills its niche in the teaching field at least. Much of the discussion of vocational reeducation and of defective states is of more than passing interest in a book worthy of a place in any physician's library.

Reynolds.

THE SURGICAL CLINICS OF NORTH AMERICA

Vol. IV, Number 2. W. B. Saunders Co., April, 1924.

This, the Mayo Clinic number, is made up of material gathered at the Mayo Clinic, presenting an interesting variety of subjects of which we will note a few illustrative clinics. The first is a clinic on Obstruction of the Esophagus and Cardia, by Dr. Porter P. Vinson, illustrating various types of obstruction. Under the head of Surgery of the Stomach is included several subjects by Drs. Lyons, Judd, Hunt and Balfour. Dr. Frank C. Mann presents a discussion on some of the functions of the liver. In this paper the difficulty of securing a satisfactory removal of the liver is printed out. Dr. Mann appears to have succeeded and has established the fact "that the liver has a vital function in relation to carbohydrate metabolism" and that bile pigment is formed from some other substance after hepatectomy.

Questions concerning urinary retention and prostatic hypertrophy are considered by Dr. Herman C. Bumpus and Dr. E. Starr Judd. Some important considerations touching diseases of the kidney are presented by Drs. Foulds, Scholl, Braasch and Judd. Questions concerning the thyroid are taken up by Dr. John de J. Pemberton and Dr. Walter E. Sistrunk.

An interesting case is presented by Dr. Frederick A. Willus under the head of Angina Pectoris and Surgical Diseases of the Abdomen. The paper is a short one but very suggestive.

Radiodermatitis and its Treatment, by Dr. Arthur U. Desjardius and Dr. Fred L. Smith, is worthy of serious consideration by amateurs in the use of x-ray and radium rays. Dr. Harry H. Bowing presents an important case under heading of Microscopically Proved Sarcoma of the Humerus. Cases of this kind have secured a new interest since a re-

search has been started in obtaining well determined cases of sarcoma of long bones. Diligent treatment has resulted in an apparent cure, as the man is well after a period of three years. Parasternal Diaphragmatic Hernia is the title of a clinic by Dr. Carl A. Hedblom.

An interesting surgical orthopedic clinic is given by Dr. Melvin S. Henderson.

The Mayo Clinic number closes with an Abridgment of Mayo Foundation lectures, by Dr. William J. Mayo, covering several subjects of great interest.

RUBBER AND GUTTA PERCHA INJECTIONS

By Dr. Charles Conrad Miller, M.D., Chicago. Oak Printing & Publishing Co., Chicago. Price, \$1.75.

This is a preliminary report of the use of various forms of rubber and gutta percha subcutaneously for the purpose of raising the depressed nasal bridge and filling in various tissue deficiencies. Descriptions of the types used, the manner of preparation, and special springs used by the writer.

The author finding paraffin unsatisfactory in its final results in raising depressed tissues, began experimenting with rubber and gutta percha and found that the objections to paraffin were overcome by special preparation of rubber and gutta percha, now presents his findings in this volume, together with the method of preparation and the technic to be employed in its subcutaneous injection.

He also points out other methods of raising depressed tissues, which were in a measure unsatisfactory apparently, at least, as compared with the rubber method.

This book will be interesting to surgeons engaged in correcting a certain class of deformities.

RHUS DERMATITIS FROM RHUS TOXICODENDRON, RADICANS AND DIVERSILOBA (POISON IVY), ITS PATHOLOGY AND CHEMOTHEROPY

By James B. McNair. The University of Chicago Press, Chicago, Illinois.

This interesting book under the above title brings to us a scientific knowledge of a subject of which many of us have had some personal experience. The first three chapters relate to the botany of the plant. Chapter four relates to the exuded sap, which, when applied to the skin, produces a dermatitis which to many persons is extremely distressing. This chapter presents a study of the resinous sap, which is extended through chapter five. Chapter six considers the virulency of the sap as to seasons of the year, etc. In chapter seven the bacterial nature of the poison is considered. The author believes that it is not bacterial, but a chemical irritant. This study is extended through chapter eight and includes certain experimental evidence in support of his contention, including the transmission of the poison to the person, and is extended through chapter nine. Clap-

(Continued on Advertising Page xx)

NO MIRACLES

are performed in our business—just good common sense used to give you the kind of quality and service the 20th century commands.

Every modern facility for filling prescriptions is used and we employ competent inspectors to insure *Geneva Quality Rx Work*.

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Just One Prescription Will Convince!

Geneva Optical Company

Des Moines, Iowa

Bankers Trust Bldg.

BOOK REVIEWS

(Continued from Page 484)

ter ten takes up the chemistry of the poisonous principle.

In chapter eleven it is stated that rhus dermatitis is caused by a non-volatile substance from the plant under consideration and from actual contact. The avenues of infection are the skin, the respiratory, alimentary, genitourinary and conjunctival surfaces. This chapter (10) is devoted to the pathology of rhus dermatitis, followed in chapter twelve with the differential diagnosis and chapter thirteen, internal poisoning from rhus.

The question of immunity is also considered, which is rather important. The remainder of the book is devoted to the consideration of remedies and treatment. The remedies it may be assumed are numerous both imperial and scientific.

We cannot do better than to recommend to those who may be exposed to rhus poisoning to have this book at hand for ready reference, not only for the several features of rhus poisoning, but for its rational treatment.

THE SURGICAL CLINICS OF NORTH AMERICA

W. B. Saunders Company. Price, Paper \$12, Cloth \$16.

The February or Philadelphia number, 1924, presents some new and attractive features, particularly in the grouping of subjects. It has appeared to us from time to time that certain numbers of the Clinic have lost in interest because of the scattered and apparently haphazard arrangements of the contents.

In the number before us there is a brilliant bronchoscopic clinic under the direction of Dr. Chevalier Jackson, consisting of fifteen subjects, presented by men of high authority. After an introduction by Dr. Chevalier Jackson, Dr. Thomas McCrae takes up the Diagnosis of a Foreign Body in a Bronchus, followed by Dr. Elmer H. Funk, on the Relation of Bronchoscopy to the Treatment of Lung Suppuration, and by Henry H. Pancoast, The X-ray Diagnosis of Surgical Conditions of the Esophagus.

In addition to the above, ten other subjects of this clinic group are presented by Dr. Jackson's Clinic associates, thus constituting an exceedingly interesting and valuable exposition of clinical bronchoscopy.

We come next to the Clinics of Drs. John B. Deaver and Stanley P. Reimann, Essentials of Surgical Diagnosis and Essentials of Operative Diagnosis, followed by Surgery in Diabetes, by Dr. Geo. P. Muller, in which a series of cases are presented.

Dr. Moses Behrend considers Variability of the Symptoms and Pathology of Acute Intestinal Obstruction. This is a valuable contribution presented in a helpful manner and of very material aid in solving certain questions which confront the surgeon.

The Treatment of Puerperal Septicemia is the subject of a clinic by Dr. Edmund B. Piper.

Dr. Edward A. Schumann presents a Series of Cases Presenting Abdominal Tumors of Unusual Type which gives rise to Difficulties in Diagnosis, with several valuable illustrations.

Dr. J. Leslie Davis presents a timely discussion on the conservation of the Hearing made Practicable by the Timely Elimination of Nose and Throat Disorders.

A valuable contribution is made by Dr. Temple Fay on The Problems of Cerebrospinal Pressure, and Drs. Speese and Klein consider the Use of Iletin in the Postoperative Treatment of Acute Hemorrhagic Pancreatitis. Dr. Leon Herman presents a series of clinical cases illustrating renal anomaly.

APPLIED PATHOLOGY IN DISEASES OF THE NOSE, THROAT AND EAR

By Joseph C. Beck, M.D., F.A.C.S., Associate Professor of Laryngology, Rhinology and Otology, University of Illinois, College of Medicine. Cloth; Price \$7.50; Pp. 280, with 268 Illustrations. St. Louis. C. V. Mosby Company, 1923.

The author states that it is his desire to limit this work almost exclusively to his personal experiences and therefore it should not be considered a textbook. Part one takes up the acute diseases of the nose, pharynx, mesopharynx, larynx, trachea, ear and the acute complications of mastoiditis. Part two discusses the chronic diseases of the nose, nasopharynx, oropharynx, larynx, trachea, bronchi, oesophagus and ear. The book is an attempt to show how a knowledge of the pathology is very useful in the treatment of these cases. The first two pages are devoted to the contents and the next seven pages to a list of the 268 illustrations. The book closes with a short index consisting of less than six pages. The illustrations are chiefly half-tone pictures showing clinical conditions and less often gross or histopathologic changes. Most of the illustrations are excellent although a few are not as clear as one would wish them in order to show the details expected of them. Doctor Beck illustrates a number of his own instruments and methods of treatment. With the exception of the coloring on plate one, the four color plates are excellent. It is of interest to note that in chronic nonsecretive otitis media he recommends various methods of treatment, as gentle massage of the tympanic membrane and ossicles in connection with periodical inflation and galvanism. In this condition medical diathermy and the high frequency current should be given a trial; he has used x-ray and radium with no particular benefit.

The book is recommended to all who are interested in ear, nose and throat pathology. E. P. Weih.

What modern doctor would use the "bone clip-pers" and "blood letters" of his predecessor of 100 years ago? The advertising pages bring to you the latest refinements in modern instruments. Read them.

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No. 11

THE STUDY OF AFFECTIONS OF THE NOSE AND THROAT WITH SPECIAL REFERENCE TO THE DIAGNOSIS OF AFFECTIONS IN OTHER PARTS OF THE BODY*

EMIL MAYER, M.D., New York City

*Mr. President and Members of the Iowa State
Medical Society:*

Permit me to express to you my most sincere and grateful appreciation of the high honor you have extended to me in inviting me to be your guest and to address you.

In selecting a subject that might be of practical value, it seemed best to present such affections of the nose and throat as could, in the main be seen under proper illumination, without the use of instruments of precision.

I have tried to present either such affections as might occur in your daily practice, or which you might be interested in even if rare, and have laid special stress on the early recognition of diseased conditions, collecting for this purpose from the abundant clinical material at my disposal for over two score years.

All the cases referred to in this address have been at some time or another under my own care. Most of the illustrations were made under my direction, and are presented in color as nearly natural as possible.

Many of the slides have been generously loaned to me by the committee on post-graduate instruction of the American Academy of Ophthalmology and Oto-laryngology, others were made for me for this occasion and are here shown for the first time.

Diseased states that are solely of interest to the laryngologist are omitted.

The activities of my associates the world over during the past ten years in retailing their experiences in tonsillar and adenoid disease have no doubt reached you also, hence I have given these the briefest mention.

Laryngeal Vertigo—The attack begins with a tickling in the throat, causing cough, the face becomes congested, the patient falls unconscious to the floor, or if seated, the head sinks forward on the chest. In a few seconds he arises, and remembers nothing but the cough, not the lapse of consciousness. While the attack simulates epilepsy, there are few if any general muscular spasms, the tongue is not bitten, there is no nausea and no head symptoms.

Elongated uvula, and hypertrophied lingual tonsils are frequent causal factors and their removal results in complete recovery.

Reflex Cough—William H. Thomson always spoke of these as "useless" coughs in that they differed from coughs where secretion was present and where cough was nature's effort to throw off some foreign substance. Persistent coughing without rales should lead to examination of the nose, throat and ear for possible causes. In an article entitled, "Some Unusual Causes of Cough" (New York Eye and Ear Infirmary reports, 1897) I presented before the New York State Medical Society reports of some of these cases. These were:

(1) Due to follicles in the posterior pharyngeal wall. The patient, an army surgeon, had a cough, always worse at night, without expectoration, which was not relieved by cough mixtures, change of climate and of which he despaired of ever losing. There was a bulging mass of soft tissue on the wall of the pharynx. A single curettage cured him at once.

(2) Foreign body in the ear. This was in a young boy. Cotton had been placed in his ear one night when he complained of earache. An attack of diphtheria coming on the next day caused the cotton to become forgotten and it was pushed well in on his drum. Months later he came to me because of an intractable irritating cough and a dark mass was seen in the ear. This was removed and proved to be the forgotten cotton dirt covered. His cough ceased. He was one of those individuals who can be made to cough any time by tickling the ear canal.

(3) *Elongated Uvula*—This with papilloma-

*Presented before the Seventy-Third Annual Session, Iowa State Medical Society, Des Moines, Iowa, May 7, 8, 9, 1924.

This address was illustrated by colored slides, some sixty in number, but reproduction has been omitted for lack of feasibility.

tous growths on the tip is by far the most common cause of cough, and strange to say is frequently unrecognized.

A young girl was brought to me after having been treated daily by a well known laryngologist for over a year without relief, until finally the parents were advised to send her for a long time to the mountains. The uvula was elongated with a papillomatous extension. All examinations had been made with the laryngeal mirror, and because of the retraction of the uvula on examination this condition was apparently not observed. A simple measure to prevent retraction, thus permitting the elongation to go unnoticed, is to allow the uvula to rest on the tongue spatula and slowly pressing downward the condition is readily seen.

Prompt removal cured this patient in three days.

(4) *Hypertrophied Lingual Tonsils*—These require removal either by cutting forceps or galvano cautery.

(5) *Foreign Bodies in the Nose*—These cause cough, as also asthma when polyps are present. In this connection the manifestations of hay fever require mention.

Neuroses—Beginning with the tongue, these are sensory and motor. In the former there are complaints of localized pain or loss of sensation. Both are often traceable to irritations from the teeth, sometimes to injury done by the arduous extractor, others to lasting effects following the application by injection of a local anesthetic, and lack of proper asepsis.

The soft palate is often the site of a partial paralysis, and the careful observer will note the complete lack of mobility of one-half of the soft palate while the other makes a free movement. The entire soft palate is often immobile. The former is apt to be associated with paralysis elsewhere, central in origin, while the latter most frequently follows an infection like diphtheria. The chief complaints are a nasal twang of the voice and the entrance of liquids into the nose on swallowing. In one case this post-diphtheritic paralysis was the only evidence we had that a slight illness of a few weeks before was really a diphtheritic attack.

Patients with chorea often have jerking movements of the soft palate and where these are present a careful examination of muscular co-ordination will reveal the presence of that affection.

By far the greater number of patients seen by the laryngologist are those who complain of their voices. In some it is but a slight annoyance, in others it is a matter of most serious concern as in public speakers and singers.

Neuroses also arise from lack of function of the adductors: the cords move freely but fail to approximate. These are either occupational or have their origin in such constitutional disturbances as produce muscular inertia in other parts of the body.

Adductor paralysis where one-half of the larynx remains fixed, while the other moves freely toward the immobile half, is always a serious condition for it means pressure on the recurrent laryngeal nerve, in most instances due to an aneurism. It has often happened that the laryngologist noting this condition, the presence of a serious organic disturbance was first disclosed.

Paralysis may follow an operation on the thyroid, and careful operators examine the larynx before operation, and prepare the patient for possible voice defects afterward.

The Tonsils—So much has been written on the subject of rheumatic and other affections in which diseased conditions of the tonsils were found to be the causal factors, of which you are fully aware, that I will not weary you with a repetition. I will merely say that a normal tonsil has its function while a diseased one is undoubtedly a serious menace.

Tuberculosis—Appears often primarily in the nose and throat, and now and then we have the opportunity of recognizing this dread disease long before it would otherwise be suspected and this discovery may result in saving life.

Early Recognition of Tuberculosis—Pallor of the mucous membrane, particularly of the soft palate is given by some as an early sign. This has not been my experience. I have, however, been able to diagnose tuberculosis long before it would otherwise have been diagnosed, by the presence of a yellow exudate in a single spot.

A young lady was referred to me by her physician; she complained only of slight throat irritation and general malaise. Her throat was normal except that on the posterior aspect of her uvula there was a canary colored exudate, which I pronounced to be tuberculosis. Careful examination as to temperature, fluoroscope, etc., corroborated the diagnosis and she went at once to a sanitarium. She underwent thorough treatment, was then permitted to assist in the office, a few hours each day. Slowly these hours were extended until finally she was able to accept a salaried position there at full time. Four or five years later she wrote me that she was considered cured and was deeply appreciative of the early recognition of her trouble.

These yellow exudates may appear anywhere in the mouth, palate, tongue, cheeks or lips as

well as in the nose. Where they appear in numbers the tuberculosis is apt to be miliary in character and the prognosis exceedingly grave.

Interarytenoidal Thickening—This is another early sign of tuberculosis. It consists of a hyperplasia of the normal tissues and when present should lead to careful examination for the presence of tuberculosis.

In all these cases the examination of sputum, if there is any, is negative.

Advanced Tuberculosis—Later in the disease destruction of tissue with tumefaction occurs in the nose and throat and I shall show some of these on the screen.

Lupus—This is an attenuated form of tuberculosis. That is, only a few tubercle bacilli are found, the symptoms are of the mildest sort, the progress of the disease is very slow, the patient is often unaware of any disease of importance. It presents itself either in the nose or the throat.

Many cases of lupus, either primary or secondary, are only accidentally discovered by the physician. The patient does as well in one climate as another and requires but little care. I have followed up several such cases. One patient was under my care for eighteen years before she finally succumbed to tuberculosis. During this time, although there had been extensive destruction and cicatrization of the pharynx, there was no loss of weight and no cough. She married and had two healthy children.

The nature of this affection, without any of the distress that real tuberculosis occasions, makes it imperative in my opinion, to make the distinction between the two. Often patients with lupus of the face will be found on laryngeal examination to have advanced disease in the latter organ; again, induration and destruction may be far advanced with the slightest of throat symptoms. It is important therefore to decide that this condition exists, for these patients do splendidly under treatment and do not have to leave home.

It surely means much to your patient who, while informed that it is tubercular can be told it is of a mild variety, that its progress is very slow, that he is no menace to others and finally that the inevitable end will be postponed for years.

The ravages of this disease may be great as far as destruction of tissue is concerned, but in spite of this the symptoms are of the mildest. In the early stages of the affection there is much edema and this is of a peculiar saddlebag appearance which is pathognomonic and of which I shall show you an illustration.

It occurs at times as a primary affection, again

is discovered when the skin is affected with lupus. Owing to the fact that it presents no symptoms all patients with lupus of the skin should be examined from time to time with the laryngoscope.

Syphilis—This may occur as an initial lesion on the tongue, lip or tonsil, as a secondary lesion on any mucous membrane and in the tertiary form where the lesion may be very great.

In the first series of cases with the initial lesion the Wassermann test is most apt to confirm the diagnosis. It is rarely necessary in the other stages as the history tells the story. Those of us who have practiced medicine before this test was known will realize the difficulties that attended a recognition of the presence of syphilis in those days. The history in all cases of initial lesion was of little avail. The later developments often presented difficulties in the matter of diagnosis. Now and then the patient would help out as occurred in one case that I recall. Its brief recital may be of interest.

A young married lady was sent to me to be treated for her nasal catarrh.

She was a very attractive young woman, and her complaints were of obstructed respiration on one side of her nose. Examination revealed a tumor on the nasal septum which I felt that if I had seen it in my clinic I would at once have declared to be syphilitic.

I asked a few guarded questions and stated that she required treatment, but would first confer with her physician as to whether the treatment would agree with her and made an appointment for her to return the next day. I called on her doctor who knew of no specific history but said that I should use my own judgment.

The next day she asked me why I had asked her so many questions on her previous visit. I replied evasively by saying something of the doctor's curiosity, when she said, "Do you think I have syphilis?" I said, "Yes, I do." Then she told her sad story of an infatuation with a young actor, a runaway marriage, his desertion after she had been infected and her treatment for two years with the statement that she was fully cured.

Cancer of the Upper Air Passages—This is of diagnostic interest to all of you but has been so thoroughly dealt with in special articles on the subject that I shall content myself with showing a few slides, and to express myself that radium has given me much gratification in its remedial effects and that the future gives us hope for some curative measure.

Typhoid Fever—Of very great interest and importance to the practitioner are the manifestations of the larynx of post-typhoid perichondritis.

An early hoarseness is soon followed by dyspnoea which may require a tracheotomy. This operation, which while life saving is but of temporary benefit, much must be done to restore normal breathing conditions lest the patient be doomed to the permanent wearing of a tracheotomy tube.

Fortunately there is a limit to the advance of perichondritis, the larynx is extremely tolerant and forcible dilatation and constant pressure of an intubation tube for months results in a permanent and reasonably wide passage.

Some twenty years ago I was hastily summoned to see a young woman in severe dyspnoea following typhoid fever. There was a firm induration on the left side of her larynx on a line with the false vocal cord. I performed a tracheotomy at once, with complete relief of her dyspnoea. Some weeks later I began to dilate her larynx. I always had her hearty cooperation for she was determined not to go through life breathing through a tracheotomy tube.

As soon as the passage was wide enough I introduced an intubation tube, removing the cannula and closing the wound in the trachea.

She bore this tube well, it was removed for cleansing and again inserted only to make room for a larger sized tube.

Eventually she was able to get along without the intubation tube. Her breathing was natural, her voice coarsened, her larynx showed some remains of infiltration, but she has not required any treatment since that time.

I have seen her only recently and she has remained perfectly well all these years having only the scar in her neck and a slightly altered voice as a memento of her experience.

The recital of this case is of interest as showing the truly wonderful tolerance of the larynx to some forcible manipulations.

Vincent's Angina—This affection is comparatively frequent, the absence of fever and constitutional symptoms differentiates it from acute conditions, its greatest resemblance being to that of syphilis.

I recall here the first case of this affection that I saw. It was in a young man, healthy and strong, with no history of exposure, and while resembling lues, there was that in its appearance that made it seem entirely different. I had only a short while before completed a study of recurring membranous pharyngitis and followed the same course in this case.

I sent the patient to the pathological laboratory of Mt. Sinai hospital where they promptly found the spirillum and fusiform bacillus of Vincent

Russian journals, under the name of Vincent's or Rauchauss' angina.

Thus it occurred that I was the first to describe this condition in 1902, in the English language. Later, especially during the war, this condition was noted by some of our physicians, and accounts of a "new" condition were hastily penned. Ordinarily it runs a mild course, at times it is associated with severe destruction. While its favorite site is in the fauces and tonsils it appears on the surface of wounds anywhere on the body.

The Mucous Membrane of the Nose and Throat—As its name implies it is most important that this membrane should constantly maintain its natural moisture and this is obtained by the presence of mucous secretion. Mucus contains a protein radical and the nitrogen-containing carbohydrate of mucin, a non-fermentable sugar. This latter is very rich in oxygen. Mucin also contains a very large amount of sulphur. Mucin with its wonderful chemical composition acts as a barrier action against the entrance of toxic ferments and bacteria into the system, and this in virtue of the fact that the carbohydrate is not fermentable and is not affected by the oxidising and dissociating ferments of the animals. Mucin is also highly resistive to putrefaction. Its exact stereo-chemical position has not yet been fully worked out, with its richness in oxygen which is readily given off; virulent bacteria are destroyed and the body protected from their destructive ravages.

It is not only the mucus but also the ciliary action of the mucous membrane which keeps off irritating substance contained in the inhaled air.

While the individual may be thus protected as far as his own body is concerned he can become a carrier, transmitting disease to another person. The mucous membrane is subject to the same disease, as a rule, as occur on the skin. Sometimes the mucous membrane only is affected.

Skin Diseases of the Mucous Membrane—They are described in works on diseases of the skin, but receive but casual mention by laryngologists. I have therefore presented them here, and will also show them in the colored slides.

Measles—That this affection first shows itself on the mucous membrane of the hard and soft palate was first shown by Koplik, an American pediatrician, and these spots bear his name. These are shown in the illustrations. Number 1—Presents spots in the buccal mucous membrane, showing isolated rose spots with a minute bluish center or normally colored mucous membrane.

Number 2—Shows increased eruption of spots on mucous membrane of cheeks, patches of pale

pink interspersed among rose-red areas, the latter showing numerous pale bluish white spots.

Herpes—Known best as "canker sores", is an acute inflammatory disease of the skin, characterized by formation of small groups of closely aggregated vesicles upon reddened bases. It has its favorite seat near the oral commissures and on the lips. It may appear on the tongue and buccal mucous membrane. It is caused by gastrointestinal derangement, coryza and many infectious processes.

Lichen Planus—These are minute papules, small, waxy-looking and shiny, bright red in color; generally smooth on the surface, sometimes covered with a firmly adherent scale, on the body. In the mucosa they appear as whitish silvery glistening patches with thickened epithelium. The condition is diagnosed by finding the skin eruption at the same time. As there is no itching it can be differentiated from psoriasis and ichthyosis.

Thorough examination shows the inside of the lower lip to be thickly strewn with minute white specks slightly projecting above the rest of the mucous membrane. On the buccal portion it is chiefly in white streaks branching out from behind forwards. The palate presents a different appearance; the whole surface being mapped out with faint white lines enclosing in a more or less circular red area from one-tenth to one-eighth of an inch in diameter. The tongue is free and there is no itching. At times the surface may be all covered with brilliant silvery white fur and a small round white patch on each side of the tongue.

Arsenic with proper dietary is of value in the treatment.

Leucoplakia—This occurs on the tongue, especially at the margins, on the buccal mucous membrane in contact with teeth, at the angles of the mouth and on the mucous lining of the lips. Roundish, often confluent, patches are frequently present, especially in those who smoke or drink to excess. The condition is a chronic one showing little or no inflammation at the edges. It has no connection with syphilis but its appearance may be very alarming to one with a history of syphilis.

As a result of the long continued irritation from this affection epithelioma may develop.

Leucoplakia is not difficult to diagnosis, it resembles lichen planus but the latter has always a skin affection.

Aphthous Stomatitis (Thrush)—This common affection shows itself in roundish or oval patches of whitish color with narrow, red margins occurring in the mouth either as an acute or chronic

condition, sometimes with all the symptoms of a general infection.

They appear more especially on the lips, tongue, gums, on the hard palate, but rarely on the soft palate. By their confluence they may assume irregular forms and may attain much greater dimensions. They may occasion considerable pain after eating, their tendency is toward healing within a fortnight. It occurs most frequently in teething children; in adults it is apt to be obstinately recurrent.

Digestive disturbances and decayed teeth are often causal factors. The diagnosis is easily made.

The treatment lies in correction of the diet, the use of an alkaline mouth wash and touching up the spots with a mild nitrate of silver solution.

Mycosis—This appears in the form of fungoid growths, resembling lymphoid structures in appearance on the mucous membranes of the throat at times with superficial ulceration. Another form is the leptothrix which occurs in the mouth as a saprophyte. It often follows some previous prostrating disease. The invasion of the tissues by the mycelium may be followed by a secondary involvement of other pathogenic organisms such as pyogenic cocci and the diphtheria bacilli.

Geographical Tongue—This is also called mapped tongue, wandering rash, ring worm, circular or annulus migrans.

Its pathology is unknown. It begins as one or more circular patches, at first about a quarter of an inch in diameter, red from slight denudation of the epithelium, with a whitish border formed by the slightly swollen otherwise normal epithelium which bounds it. The ring enlarges rapidly and meeting with others a considerable area of superficial denudation is produced. It is fairly common in children with gastrointestinal catarrh, but rather uncommon in adults.

Drug Eruptions—These occur on mucous membranes as well as on the skin, are generally recognized and are merely mentioned as among those present.

Pemphigus Vegetans—This is a rare but very terrible and fatal form of pemphigus in which the bullæ instead of drying up, the site remains excoriated and ulcerates at points of pressure and in the flexures fungating masses are produced. They have been mistaken for syphilis.

When pemphigus attacks the mucous membrane the local consequences are made very serious on account of the adhesions produced. Thus pemphigus of the conjunctiva produces adhesions with subsequent contraction which von Graefe called "essential shrinking of the conjunctiva." It is liable to occur at all ages from fourteen to

seventy-six years. In some cases the skin is also involved in others the mucous membrane alone is attacked. Crocker (Atlas of Diseases of the Skin, volume 1, plate xii), cites a case which he saw with Dr. H. Weber and Sir Felix Semon:

Male suffered from pemphigus for more than four years affecting both skin and mucous membrane. The bullæ on the body were originally as large as a hazel-nut but latterly much smaller. They were not numerous on the body and were scattered irregularly on the surface. Bullæ appeared every few days on the soft and hard palate; in the larynx on the nasal mucous membrane, and on the ocular and palpebral conjunctiva. The soft palate was as a consequence adherent to the pharynx, closing the posterior nares so that he had not been able to blow his nose for over six years. Probably the disease first appeared in the nose as he was only cognizant of the eruption on the body for four years. There was some adherence of the ocular mucous membrane but not very great. His general health was good and he has had most varied treatment in America, England and the continent without benefit. Arsenic controlled it as long as he was taking it. He ultimately recovered after taking arsenic continuously for three years.

In another case:

"Bullæ appeared first on the skin leaving an ulcer instead of healing. Excoriated patches on soft palate, the inside of cheeks and lips were nearly denuded of epithelium causing some discomfort. He was unable to eat anything dry or hard. The odor was offensive at times."

In the course of many years I have seen perhaps four cases of this affection, and append briefly the history of one such case.

On October 4, 1920, Mrs. S., a widow, aged fifty-five, consulted me complaining of much pain in the throat especially on swallowing. She had been treated for some time, (about four weeks) in one of our large clinics without any benefit or diagnosis. At times blood appeared in the mouth.

On the base of the tongue and the left anterior pillar of the fauces were blebs from which blood was oozing. The diagnosis of pemphigus was made and Dr. H. Goldenberg, dermatologist to Mt. Sinai Hospital, found a few isolated blebs on the skin and confirmed the diagnosis. She was placed upon arsenic, given orthoform to apply as well as an alkaline mouth wash. A bad prognosis was given, she suffered constantly and died within a few months.

In these cases the progress is steadily downward, emaciation follows from the inability to

swallow food, delirium, collapse or some inter-current inflammation closes the scene.

The diagnosis should present no difficulty once the condition is fully understood. It occasionally happens as a complication of pregnancy, and these unfortunates are even more pitiable than the others. The treatment is entirely symptomatic.

Rhinophyma—This affection covering the tip and ala of the nose resulting in great enlargement under the skin while occasioning no pain, there is much distress because of its disfiguring nature. Nothing is known of its origin and surgery seems to be the best thus far devised for its treatment.

This is sometimes called lipoma nasi. It shows itself in separate pendulous tumors and consists of connective tissue and enormous sebaceous glands thickly disseminated through it.

Rhinoscleroma—This affection may also appear in the throat. I have described cases occurring in the throat alone as also in connection with its appearance in the nose.

It is a mildly contagious disease. Endemic in parts of Poland, slowly appearing in Galicia adjacent to Poland and seen in this country only in persons native to these countries. No native born American has been known to have this disease. It shows itself in the form of firm indurations on the skin and mucosa, has an especial bacillus of its own, is chronic in its course, made less active by the use of the roentgen rays, and chiefly of interest to those of us who see many foreigners. The question of quarantine has been raised and while its infectiousness is very slight, surely the possessors of this disease would not be considered as eugenically valuable by believers in the new decalogue of science.

Leprosy—This affection appears in the upper air passages. In the first or prodromal stage which is usually of long duration there is marked infiltration and swelling of the mucous membrane. It attacks the septal cartilage causing hemorrhage. In the stage of infiltration there is a firm swelling and reddening of the mucosa of the septum and turbinates, as also hypersecretion. Then individual nodules form with rapid necrosis. Crust formation extremely hard and often fetid now occur. The next stage cicatricies form, the mucous membrane now is leathery, anemic, whitish, yellow, or brownish red. Often the turbinates disappear. There is local anesthesia and atresia.

This is another of the contagious affections and strict quarantine and segregation are essential.

Glanders—This extremely infectious condition appears in the nose and larynx in the form of nodes and nodules, more rarely as diffuse infiltrations consisting of round cells without giant cells. The nodules suppurate rapidly and there is frequent hemorrhagic infiltration.

If the nodule lies in the neighborhood of the surface of the mucous membrane there occurs early an infiltration of pus corpuscles into the epithelium as the result of which small pus foci arise. These latter coalesce and give rise to the formation of ulceration. During the early stage of nodules many bacilli lying more or less in groups are found in it. When the nodule suppurates the number of bacilli diminishes and in chronic glanders they are not to be demonstrated microscopically.

Glanders while a very unusual disease may be either acute or chronic. It occurs as a direct result of contagion from horses or from man. In the acute form the disease runs a very rapid course from seven to twenty-one days, while the chronic condition may last for months. This latter may become acute, although the acute does not become chronic.

The diagnosis is not always easy. A history of exposure enables prompt recognition. The prognosis is grave. Symptom remedies, stimulation and rigid quarantine are indicated.

This concludes the list of diseased conditions which I have selected to present to you. If I have succeeded in recalling many facts to you, or in presenting the unusual in the special field in which I am interested, thus adding something to your diagnostic ability, I am indeed grateful and again express my appreciation of the honor of being your guest.

40 East 41st Street

CONSERVATION OF VISION IN CHILDREN*

RALEIGH R. SNYDER, M.D., Des Moines

What can be of greater economic importance to the welfare of a nation than the conserving and improving of the vision of its people? Yet how slow has been the progress of law and science in this direction. We have known for years that the instillation of a 1 or 2 per cent solution of silver nitrate, instilled in the eyes of the new born infant is almost a certain preventive of that dreaded disease known as gonorrheal ophthalmia, yet it is only within the past few years that we have had a law passed making it compulsory in

the state of Iowa, a state which boasts of the lowest percentage of illiteracy of any state of the union. In spite of such laws our schools for the blind are still filled with children blind from a preventable disease and our nation is spending millions of dollars annually for their maintenance and education. In spite of knowledge on the part of physicians, midwives and nurses, there still exists a deplorable laxity in the practice of Crede's method upon the eye of the new born child. The prevention of gonorrheal ophthalmia must go back even to the unborn babe. The pregnant mother should have some vaginal smears made at intervals during pregnancy and proper treatment be instituted if positive smears should be found.

The public, through a gradually awakening intelligence guided by public health nursing service, is beginning to seek better health and better physical equipment for the child of today. Yet even today, how difficult it is to persuade some parents that their child really has some defect that should be remedied, regardless of repeated notices to that effect from school nurse or teacher.

All the mental and physical powers of a child are brought into play in school life. Defect in one of these powers will act as a handicap. The child with a defect will not be able to do so well in work or in play as the better equipped child. Some defects are more than handicaps; they may become irritants and react in the general welfare of the child. A child with some degree of deafness will fail to hear low tones; the failure is a loss. The sensitive child may be aware of the loss and worried by it, but the effort to hear will involve no ill effect.

A child with defective sight will fail to see clearly; the loss may cause worry, but more serious is the likelihood that the effort to see will cause a strain that may further damage the eyes and even disturb the balance of the nervous system.

The ill effects of defective sight are progressive and cumulative. If we leave out of account the dominant part played by the sight in the development of human mental and physical powers, still the significance of defective sight is such that no effort is lost which seems to diminish or ameliorate the defect.

Where shall be the battlefield for the early detection of defects in the visual apparatus of the child? Parents are so accustomed to their children and their ways that they can rarely be relied upon to notice only the most obvious defects. How many mothers delude themselves into thinking that their child's eyes are perfectly

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normal when it is obvious to the most casual observer that the child has a decided squint?

The school becomes the testing ground of the physical qualities of the child, even as it is of the mental capacity. Therefore, at present at least, we must look to the school as the place of prime importance in seeking out the child with defective vision in his early years of schooling.

It is desirable that teachers should receive a course in school hygiene instruction in the recognition of simple eye defects, such as the recognition and danger of sore eyes, the seriousness of squint and the urgency of its early and continuous treatments, and in the methods of measuring and recording of visual acuity.

An educated and observant teacher is the first line of defense in protecting the child from strain arising out of its inherent disabilities. Every teacher ought to know the meaning of a vision test type and be able to discover the value of the child's eyesight by use of that test and to record it.

The test type should be a familiar object in the school and it should be of such a kind that it cannot be memorized, no matter how frequently seen.

For this reason, there is an advantage in the use of the E sign card, in which there is only one sign for each grade, mounted on a turn table that can be moved at will. The test cannot be learned; it requires no knowledge of letters; the response is simply the movement of the hand to correspond with the position of the pointers of the sign. There appears to be no reason why an initial test of vision should not be done by the teacher; it would give them a knowledge of their charges that they would not otherwise obtain and it would accentuate their interest in the conservation of child sight. These visual tests should be repeated several times during each of the first few years of school life in order to check up on any progressive eye condition or acute condition which might result from sickness or which might be induced from some hereditary disease.

At present many children attending school under the age of seven do not have the eyes examined, yet Harmon has shown by the routine examination by objective methods of the eyes all the infants attending a large, good class, elementary school to the number of 368, that 36.9 per cent had defects of the eyes and no less than 16 per cent considerable defect. These infants, fit and unfit, do the same work, and it must be remembered that what we adults think easy tasks are in reality very laborious and fatiguing to infants.

It is not practical to attempt to distinguish these defects by a test made with the test types. It can only be done satisfactorily by the routine objective examination of the eyes of each infant by an oculist.

Such a proposition is probably impracticable at the present. However, the time will come when every child in entering school will have a careful examination under the use of a mydriatic.

The burden of detecting the serious defects of infants' eyes therefore rests with the teachers and school nurses. Infants who squint, even temporarily, and whose eyes get tired, red or irritable after work, or who fail to see marks on the blackboard or the details of wall pictures, should be noted and referred to their oculist. Similarly, children who appear dull or stupid in general class lessons should be referred for examination, for it has been shown that many so-called stupid children are stupid from inability to see. The problem of fitting large numbers of school children with glasses whose parents are financially unable to provide them has been solved in Philadelphia by the establishing of a division of ophthalmology in public school eye clinic under the Bureau of Health, where poor children may be refracted and furnished with free glasses. Their records of over 20,000 cases show that 60 to 70 per cent of the children sent to their clinics were classified as backward, mentally defective, stupid or habitually left back. Their follow-up system has proved that after these children's refractive errors had been corrected, 70 to 80 per cent of them began to make better progress and could take their places in the class with the other, average, normal children. The remaining 20 to 30 per cent did not progress because their retardation was due to other causes than defective vision.

In the course of this work it was annually found that there were cases of defective vision which glasses would only partially correct, thus making these children unfit to attend the regular classes. These were progressive myopes and high astigmatics. It was found better to leave the former out of school than to educate them at the expense of their eyesight. There was established in 1920 classes for the conservation of vision with a view of making full use of every sort of handicraft that develops attention, method and skill with a minimum use of the eyes, so that eventually these children instead of loafing, could earn their livelihood with a minimum amount of tax on the eyes.

All children having less than 20/70 vision with their proper refraction in the best eyes are referred to these conservation of vision classes.

The progressive myopes are an exception to this rule; where it is found that the myopia has markedly progressed for two consecutive years, even though the vision is better than 20/70, the children are referred to these classes. Those having vision of less than 20/200 in the best eye with the best possible refraction are referred to the institutions for the blind.

The curriculum for the sight saving classes is arranged so that these children are developed physically as well as mentally. The average is about ten pupils to the class. The school rooms are equipped with proper desks, extra large printed books, special typewriters with large type, and most favorable natural and artificial illumination. No home work is required. The children receive individual assistance from a special teacher so as to permit them to perform as nearly regular grade work as is possible without any injury to their already defective vision.

Berlin, Strasbourg and Mulhausen have special schools for children whose vision is 5/24 or below in their best eye after correction. Holm reports the results of an inquiry among the school children of Copenhagen to find whether the number with defective vision justified arrangements for a special school of the kind. Only 0.032 per cent were found, while the proportion in Berlin is 0.048 per cent and nearly a fifth have extreme myopia. No child was found with defective vision from this cause in Copenhagen. Since 1919 Berlin has had a special school for children with weak vision, to which a second school was united in 1922. It is important for the success of such a school that no class shall consist of more than fifteen children in order that individual instruction may be possible. Children are not admitted with symptoms of inflammatory eye disease. The erection of special school buildings is desirable with special class rooms in which every seat is well lighted. Each seat should have an electric lamp giving diffused light. The benches must be especially constructed so that the pupils can hold the text-books very near the eye without bending the head. For writing, a special book is used, distinguished from the usual form by heavier and blacker lines. The figures written on the board must be large and clear. The eyes must not suffer from any glare; the board must be a dark black, easily cleaned and the chalk of a yellowish tinge.

According to the report of the Hoover committee on the elimination of waste in industry, approximately a fourth of all the school children of America suffer from poor eyesight, and the proportion of defective vision increases in the higher grades. The principal eye defects dis-

closed by the investigation are farsightedness, near sightedness, and astigmatism. Of 175,153 children examined in New York public schools, 17,888 or about 9 per cent suffered from defective vision.

Examination of 92,552 school children in Boston public schools showed 11,899 or nearly 13 per cent having poor vision. In Pennsylvania, 17.9 per cent defective vision was found among 469,199 rural school children examined. Just 26.6 per cent of 1,625 pupils examined in Orange county, Virginia, were found with defective vision, and 5.1 per cent of the cases were serious. Only nineteen states, including New York, require the testing of school children's eyes. Five cities, New York, Minneapolis, Cleveland, Milwaukee and Rochester have eye clinics in the public school system. To this may be added many others including our own Public Health Center Clinic in Des Moines.

The New York Clinic corrected eye defects of 8,789 children in one year. In only three states, New York, New Jersey and Colorado, is it possible to proceed against parents to compel them to take care of their children's eyesight.

The following recommendations are made for the improvement of a disturbing national trouble:

1. Enactment of laws compelling parents or guardians to comply with notices to provide refractory aid for children with poor eyesight.
2. Extension of eye clinics and conservation of vision classes to all cities and into rural schools.
3. Codification and unification of all state laws regarding defective vision.
4. Enactment of some measures compelling eye tests in public schools.

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Dr. Emma Neal, one of the leading women physicians of Iowa, scored a victory in Judge Ellison's court when the \$50,000 damage suit filed against her by Mrs. Mary Novak was dismissed. Mrs. Novak had alleged that her daughter Mary Louise, had died from the effects of an operation performed by Dr. Neal, due to negligence. There was nothing in the testimony, according to the judge, to indicate negligence. Dr. Neal was ordered to pay the plaintiff \$200 and not more than \$70 court costs, and Mrs. Novak must pay the hospital and nurse bills.—Ames Tribune.

WHAT PROGRESS IS BEING MADE IN THE TREATMENT OF CANCER?*

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WHAT IS CANCER?

Much effort has been made to find an answer to this question, but thus far no solution has been proven. About all we know of the disease is how it acts. Its origin seems to be as securely hidden as the mystery of life itself. In considering the subject it is well to detach oneself from preconceived ideas of cancer for many misconceptions have arisen and the fog enveloping the question seems impenetrable.

It may be well to start out with the idea that each cell is controlled by two equally balanced forces; one an impulse to multiply, the other inhibiting this impulse. Weigert and Roux believed that the regenerative capacity of cells is determined from the moment of their derivation from the ovum and can never be increased by any external stimulus. Granted that this is true it follows that each cell would multiply indefinitely, provided it was supplied with sufficient nutrition, were it not for some restraining force outside the cell itself.

What this inhibiting power is, from what it comes, and how it acts has never been satisfactorily determined. The mechanical pressure of the cells on each other coupled with a proper supply of nutriment has been suggested but not proven. It is thought the answer may be found in the biochemical laboratory. Borst assumes that inflammatory overgrowth results from response to external irritants while neoplastic growth arises from the loss of the normal restraints to growth. It may be summed up as far as now known that each cell carries within itself its own motor and that the brake is an external mechanism.

Within the organism, as long as the tissues are normal, all is quiescent. Each cell retains its normal place and function. If there is a call for new cells, as when tissue is lost by trauma, the inhibition to cell multiplication is temporarily withdrawn and the cell divides, two new cells resulting. As soon as the lost tissue has been restored the inhibiting agent puts on the brakes and each cell again assumes its normal relation to its environment.

Suppose the inhibition is permanently lost, the cells can do nothing but continue to multiply without check. Such a condition is my conception of cancer. Thus it is seen that inflammation and cancer act exactly in the same way, their

only difference being that in the former the loss of cell inhibition is temporary while in the latter it is permanent. As Ewing would put it "anaplastic cells are not embryonal cells but a new type that have lost their place in the organization. More or less anaplastic cells occur in inflammation, but there are many degrees in anaplasia, and its occurrence in inflammation accords with the fact that inflammatory hyperplasia may pass into neoplastic". To Billroth's dictum, "Without previous chronic inflammation cancer does not exist" there has never been convincing refutation. It is impossible to conceive of a normal cell taking on the attributes of malignancy. A cancerous growth can only start from a cell which has lost its physiological restraints.

TISSUE RESISTANCE TO CANCER

It is not to be taken for granted that when cancer appears the tissues of the host permit the invasion without resistance. Quoting from Ludin: "Rhodenburg's data in the American Journal of Cancer Research prove that in at least 100 well-authenticated, inoperable and apparently hopeless cases of cancer (microscopic diagnosis) spontaneous and complete regression of the tumors occurred". These cases prove that the human body can wage a winning fight against malignancy. Sometime a way may be discovered by which the tissues may be aided in this struggle against an invading foe and be of material assistance in bringing about a cure.

PRECANCEROUS CONDITIONS

If it were possible to recognize the conditions which must be present to suspend cell inhibition it would be possible to deal with them before cancer has had time to develop. Thus far all that has been possible is to discover that certain conditions and lesions very frequently precede the occurrence of cancer.

Some of our pathologists are inclined to jeer at the idea of precancerous lesions. Perhaps the term is not a happy one but it expresses the idea. There is good ground for the belief that certain lesions prepare the soil for the development of cancer. If malignant disease can only arise as a result of diseased cell function the person who has no pathological tissue is immune. It is vain to hope that it will ever be possible to rid the human body of all pathology, but there are so many accessible and curable lesions which produce the conditions that make cancer possible that much more can be done than has been done. If favorable seed beds could be decreased one-half it seems reasonable that the incidence of cancer would be divided by two.

In the tissues and organs in which most can-

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cers have their origin there are lesions which are followed by cancerous growths so often that the etiological connection cannot be ignored. Chronic leukoplakia and the irritation from jagged teeth furnish the site upon which carcinoma of the tongue develops so frequently that their causative relationship is mathematically proven. The man who goes around with a fissured lip, whether the fissure is caused by pipe-smoking, or by the effect of heat and cold or as the result of chewing a lead pencil is under constant risk of having cancer develop at the base or border of the fissure.

Following along down the line there has been much discussion with regard to carcinoma originating in gastric ulcer and there are still some who deny any relationship, asserting that when an ulcer is found that contains carcinoma it was a malignant ulcer from the start. There seems such an overwhelming amount of evidence that it seems perfectly fair to put gastric ulcer of the indurated type in the list of precancerous lesions.

The scarred cervix kept irritated constantly by a purulent discharge passing over it is potentially a carcinoma. If the irritation continues long enough the result is almost certain. There are also the chimney sweep's cancer, that of the betel nut chewers, the cancer which develops in the scar of old burns and of varicose ulcers. Thousands of lesions come to the attention of doctors daily that carry with them a warning of danger. The ease and safety with which these lesions can be cured while still benign and the terrible menace they become when malignancy has developed place a solemn responsibility upon all members of the profession to get rid of these precancerous stigmata whenever and wherever they are brought to their attention.

IS CANCER INCREASING?

A study of the U. S. Mortality Reports for the past twenty years shows definite increase. (See Table I.) The accuracy of these reports has been questioned and when it is considered that in the best modern hospitals not more than 60 to 80 per cent of the diagnoses are correct a grave doubt exists in regard to the accuracy of mortality reports unless substantiated by operation or autopsy. Twenty-five or thirty years ago when the life-saving operation for appendicitis began to be done in large numbers the mortality reports showed a greatly increased number of deaths from appendicitis. This was readily explained on the ground that the knowledge about appendicitis had made it possible for the diagnosis to be correctly made. No more, not as many, deaths occurred, but those that did occur were

reported under the correct caption. The same was true of tuberculosis when the far-reaching campaign against the disease was at its height and explained in the same way. It seems probable that the increasing knowledge of cancer has caused more diagnoses to be made and consequently more deaths reported as due to this disease. Many deaths reported even now as due to old age are doubtless really due to cancer of the stomach.

To prepare Table I, I have computed the number of people forty-five years old and over and the number of deaths from cancer of people forty-five years and over. From the aggregate of these numbers the number of deaths from cancer or tumor per 100,000 of those who have reached the ages of forty-five years or over is obtained. Only the states whose mortality reports are complete for the last three census reports have been included. These states have the additional advantage of having only a small percentage of colored population. As is readily seen by referring to the percentages in the brackets the decennial increase in cancer mortality is apparently as great when figuring only those of the cancer age as when the total population is included.

It is not the purpose of this paper to discuss exhaustively regional cancer, but a casual study of the results attained by some of the foremost surgeons by showing what has been accomplished in spite of the handicaps of many late cases, may give us some notion of the possibilities when late cases are the exception and early operations the rule.

CANCER OF THE TONGUE

Here is a region where prophylaxis can accomplish wonders. The good modern dentists are doing a great work in keeping the mouth healthy and free of the myriad sources of irritation which are a fruitful cause of tongue cancer. The leukoplakias need careful treatment. Small cracks and benign ulcers are frequent and serious if not soon cured.

Bloodgood in a study of 260 cases of cancer of the tongue found there were 62 per cent five-year cures among cases operated early and only 12 per cent five-year cures among those operated late. In other words out of each 100 cases 50 more are cured if operated early than if operated late. In the experience of the Mayo Clinic more than 60 per cent were found inoperable.

During the past few years the mode of dealing with cancer of the tongue has been considerably modified. There seems little doubt that removal of the local lesion by the cautery, courageously employed, or by radium is replacing the knife. In

all these cases the radical removal of the cervical glands by block dissection as practiced by Crile seems to be rational and to be in accord with the methods found so useful in other regions, notably the breast.

CANCER OF THE LIP

Here prophylaxis and operation on the cases while localized will be followed by a large percentage of cures. Sistrunk's report of cases from the Mayo Clinic are so instructive that they will bear study. He reports them under three groups: Group I. Glands not involved, local lesion excised and glands removed; ninety-eight cases, 90.3 per cent alive five to eight years. Group II. Glands involved, local lesion excised and neck dissected: eleven cases, 18.1 per cent alive five to eight years. Group III. Only growth removed, glands not excised: twenty-seven cases 79.2 per cent alive five to eight years. It will be seen that in 100 cases seventy-two more were saved when done before the glands were involved than in the later cases.

CANCER OF THE BREAST

Cancer of the breast has been used as an example of what may be done by early operation. It has been demonstrated by actual cases that when operated early 70 to 85 per cent can be cured. The problem has been to get them early and in my experience there has been a definite gain in this regard since the campaign of the American Society for the Control of Cancer was started. Fully 50 per cent of breast tumors that come to me are benign, and 40 per cent of the remainder require an exploratory operation, with a frozen section of many of them, before they are proven to be malignant. This is the most encouraging reaction to the efforts to educate the public I have yet seen. As an index of the more favorable results in early cases Table II is illuminating, it being taken from the records of Greenough and Simmons. In Sistrunk's cases the five-year cures were 65.1 per cent of the cases operated early before the glands were involved against 22.0 per cent of those operated when the glands were involved.

Radical operation has not been replaced by any of the newer methods of treatment. Woglom says: "Neither radium nor the x-ray has done what was at first hoped for from them. There is no doubt that they can often be very useful as a supplementary treatment, and perhaps in the future we may learn so to control them that they may be of more distinct value than they are now." At present however, any dose that is intense enough to destroy the cancer cell may prove in-

tense enough to destroy the healthy cells in the neighborhood."

As an indication of the wisdom of a cautious adoption of the x-ray the report of Tichy on cases of cancer of the breast treated at Marburg deserves consideration. Tichy divides the cases into three groups and it must be explained that each group comprises all the cases treated during the years indicated. There was no selection of cases.

Group I. The cases treated during the years 1904-1914 were not x-rayed after operation.

Group II. The cases treated during the years 1914-1917, scar x-rayed lightly after operation.

Group III. The cases treated during the years 1918-1919, intensively x-rayed after operation.

Table III gives the results at Marburg reported by Tichy, the results at Tubingen reported by Perthes, and the results in Payr's Clinic at Leipzig as reported by Kastner, all using the same groups.

As will be seen by studying the table the most unfavorable results were with the cases intensively x-rayed. It was especially noted that more cases died of metastases and the internal metastases were more numerous and very marked among those x-rayed intensively. In my own experience for a number of years the x-ray has been used post-operatively in most cases, but I am not yet convinced that it adds to the chance of cure and in some cases it has seemed to be detrimental. Much careful observation will be required to prove the value of the x-ray in breast cancer. The cancer research laboratories are studying the problem carefully and authoritative conclusions will soon be reached.

CANCER OF THE STOMACH

Diminution in the mortality from gastric cancer is beset with difficulties that do not exist in most of the other regions, because of the insidious onset of the disease. Before sufficient clinical symptoms manifest themselves to cause the patient to consult his doctor the pathology is usually far advanced. Unless located at the entrance or exit of the stomach, in such a position that early obstructive symptoms are produced the patient may consider himself in normal health until such dramatic symptoms as hematemesis or the passing of tarry stools occurs.

That there is, however, definite opportunity for improvement is evident from the length of time that usually elapses between the first onset of definite symptoms and the date when a physician is first consulted. That this is a real hindrance to progress we have but to think of our own experience. Unfortunately gastric symptoms are so

common that the average person bears with them for a long time before seeking relief. Cheever's analysis of the cases admitted to the Peter Bent Brigham Hospital is parallel to that which might be made in most hospitals. (See Table IV.) This is not a very cheering presentation, but the real situation must be faced. Until such a large percentage of late cases can be eliminated it will not be possible to make progress. Long and strenuous propaganda will be required to overcome this national tendency to put off consulting the doctor.

In a series of 566 cases of proven cancer of the stomach reported by Smithies and Ochsner they found that 239 (41.8 per cent) were cases of cancer following ulcer symptoms, and 182 (32.1 per cent) arose in perfectly healthy subjects. Of the 239 cases chronic gastric disorder had existed for an average of 11.4 years, while of the 182 cases the gastric symptom complex averaged 7.1 months. This is entirely in keeping with the contentions of MacCarty who firmly believed, and his examination of many hundred gastric ulcers proves, that gastric ulcer is a frequent cause of carcinoma.

In the face of evidence like the foregoing, which may be duplicated in many of our clinics, it seems not unreasonable that all gastric ulcers not promptly cured by medical treatment, or that relapse after apparent cure, should be subjected to operation. It is also apparent that the best operation for all ulcers of the indurated type is excision. It is very gratifying to know that this procedure is rapidly growing in favor among many of the best surgeons. Could such treatment be generally followed the incidence of gastric cancer would be much reduced and some incipient cancers would be removed unwittingly.

CANCER OF THE CERVIX UTERI

In no region of the body has there been so much change recently as in the treatment of cancer when located in the cervix uteri. The Wertheim operation has not been as successful as was hoped. The primary operative mortality has been exceedingly high; nor have the results in those who withstand the operation been greatly superior to those which follow a less formidable procedure. The idea seems to be crystallizing that when a case requires such an extensive dissection as in the typical Wertheim it has metastasized so widely that any operation would be a forlorn hope.

For these reasons other means have been sought for combating this fatal malady. In the treatment of advanced and heretofore hopeless cases of cervical carcinoma radium has reached

its most brilliant achievement. Surgeons are almost in accord in giving to radium a high position; a few have gone so far as to give it precedence over all other agencies in the treatment of this disease. Most, I think, prefer pan-hysterectomy, a modified Wertheim, in cases in which the disease is still confined apparently to the cervix, reserving radium for the borderline and advanced cases.

Clark divides carcinoma of the cervix according to the progress it has made into three groups:

Group I. Operable cases, the disease being confined to the cervix as far as can be ascertained. Hysterectomy followed by radium is his treatment for this group.

Group II. Borderline cases, some invasion of the vagina and broad ligaments being present. This group he begins by a treatment with radium and follows it by hysterectomy if the radium treatment produces a condition which warrants it.

Group III. Inoperable cases in which the invasion of the surrounding structures is so great that successful operative removal is impossible. In these cases he depends principally upon radium, supplemented, if needful, by local removal of fungating masses by excision, scraping or diathermy.

Taussig reports the result in over 1,000 collected cases of cancer of the cervix treated by radium five years previous to the reports. About 20 per cent were well, approximately the same percentage as by radical operation, though doubtless some of these cases would have been considered inoperable. By groups it was found that more of the advanced and borderline cases were symptomatically cured by radium than by operation, while of the early operable cases the percentage of cures by radium was only thirty-one, against a percentage of cures by operation of forty to forty-five.

In 4,982 cases of cervical carcinoma reported from a number of German and American clinics 1,989 (39.9 per cent) were considered operable. The cases actually operated were 1,692 with an operative mortality of 313 (18.5 per cent). Of the 1,379 surviving patients 317 (23 per cent) were alive and well five years after the operation. This would be 18.7 per cent of all operated or only 6.4 per cent five year cures of the 4,982 cases from which the operated cases were selected.

The problem that confronts us is to get a larger proportion of the cases early while still operable. Considering the early period that definite symptoms of carcinoma of the cervix appear, by proper education and reassurance of the women of cancer age, it ought to be possible to get the

majority of the cases in the early operable group. Melson says that in his series the average duration of symptoms before the patients came to the clinic was eleven months. The early symptoms are so characteristic that this great lapse of time seems unnecessary. If women could be fully impressed with the gravity of an irregular bloody discharge, frequent and prolonged menstruation, watery discharge, or any staining in women who have passed the menopause it seems that any delay in consulting their doctor would be exceptional.

With the good results shown all advanced cases should have the benefit of radium. With added experience in technic radium seems destined to replace operation in all but the early cases of cervical carcinoma. Good cooperation between surgeon and radiologist ought to brighten this gloomy chapter.

CANCER OF THE FUNDUS UTERI

Two hundred and forty-four cases operated by Mayer, Mayo Clinic, Clark, Weibel, Waegeli, Prochownik and Peterson were followed by 20 (8.2 per cent) operative deaths. Of the 224 who survived the operation 148 (66 per cent) were alive and well five or more years after the operation. This would mean 60.6 per cent of the 224 operated cases. These results are good but not nearly as good as they would have been if all had been done early. In Melson's report he states that the patients with carcinoma of the fundus coming to the Mayo Clinic had had symptoms on an average of 17.9 months. The good results under such a handicap show how relatively favorable these cases are. If it were possible to operate all these cases early the cures ought to mount to 80 or 90 per cent.

The results from operation are so good that most surgeons prefer to treat them by panhysterectomy and only refer the very advanced cases for radium treatment. The dictum of Clark ought to meet with general approval. "In cancer of the cervix, when in doubt, use radium. In cancer of the fundus when in doubt, operate."

IS PROGRESS BEING MADE?

Up to the present, it must be admitted, in our fight against cancer the surface has scarcely been scratched. It is true that in early cases a hopeful percentage of cures have been made. But when it is considered how small a proportion of the total number are ever operated and how low a percentage of those operated are done while the disease is still early and definitely localized there is really very little upon which to base an opinion of definite progress.

The search for a cause of cancer has been constant and it seems sometimes to overshadow the search for a cure. Many medical men and some surgeons have been lukewarm in advising operation. Pessimism has prevailed in so many quarters that it is little wonder that cancer victims seek solace by going to the quacks who at least speak encouragingly. The charlatans thrive on these poor unfortunates and many well meaning ethical doctors contribute to their prosperity by literally driving their clientele to the man who, at least temporarily, gives them hope.

Let the search for the cause of cancer go on. It is my conviction that when it is discovered it will be found to be a disassociation of the cell from its environment due to age plus irritation or inflammation and the problem facing us in its cure will be exactly what it is now. It does not seem probable that an explanation of the cause of cancer is going to carry with it any great epoch-making method of cure. This sounds pessimistic but it is not meant to be as pessimistic as it sounds. With the present knowledge and with the armamentarium we now possess it is within the possibilities to decrease the present mortality at least 50 per cent, which would mean the saving of at least fifty thousand American lives annually.

Why is the present death rate so high? First: The large number of cancer victims who do not consult a reliable doctor or who never receive intelligent advice, most of whom drift into the hands of quacks.

Second: The very large proportion of cases that are found inoperable when they reach the surgeon.

Third: The many who are operated so late that cure is impossible.

Fourth: The very small number of cases operated on early, while the disease is still localized.

It is the task of the century to get all of those in the first three groups into the fourth group. The four reasons why an army of cancer victims are swept away annually are the result of a number of contributory factors:

First: Ignorance on the part of the layman.

(a) He does not know the early signs and symptoms.

(b) He believes cancer to be incurable.

(c) He fears the truth and dreads the knife.

(d) Too often, if he consults a doctor, he is met by indifference, vacillation, delays or in some instances, by such pessimism that he takes refuge with the charlatan.

Second: Lack of proper advice by his doctor, due to:

(a) Not sufficient examination or no examination.

(b) The patient is ridiculed and the symptoms regarded as trivial.

(c) Watchful waiting until an early favorable case becomes a late unfavorable case.

(d) A prompt diagnosis but with such discouraging remarks about the prognosis that the patient begins to search for someone who will give him encouragement.

Third: When he finally reaches a surgeon he may find a man so lukewarm and so skeptical about results that he does an inadequate operation or merely a palliative one. It must be understood that no operation is far better than one which does not get beyond the most remote extension of the disease.

Then how can progress be made? Is it possible to materially reduce the annual death toll? A complete reversal of the conditions that have contributed to the present awful mortality will have to be made. There is an urgent call for such a widespread, intense, and continuous educational campaign that every layman will know a few concrete facts:

(a) The initial warning signs of cancer as they manifest themselves in the various regions of the body.

(b) That at the beginning cancer is a local disease.

(c) That it is curable if operated early.

(d) That the knife is their friend when properly used.

Every doctor will have to be alert to each sign or symptom that might spell cancer. It will be necessary for him to make a most thorough and methodical examination of every case as a routine practice. It is also his province to relieve his patients of all those conditions known to precede the development of cancer, such as leukoplakia, fissures of the tongue or lip, gastric ulcers, warts, moles, lacerated cervixes, chronic irritations wherever they may be located. If a condition is found which might be cancer or which he cannot say is not cancer there will be no temporizing or mincing of words. Such a case will be given the benefit of an exploratory operation and will not be dismissed until macroscopically and microscopically it is proven to be benign. If not in a position to do this himself he will send the patient to a reliable surgeon. The fate of thousands of these patients rests upon the thoroughness, the skill, the promptness and courage of the first doctor consulted.

A grave responsibility also rests upon the surgeon. A very careful examination must be made, and in the history the time noted when the first indication of disease appeared. The exact local condition is also recorded and accurately described, including the location, the size, consistency, and whether adherent and if there is any

local infiltration and to what extent. The presence and extent of enlarged glands is also noted; as well as a record of any breaking down of tissue. A complete skeletal and other x-ray examination is also necessary for exactness as well as to make a follow-up system of any statistical value.

If after thorough investigation it cannot be proven to be benign he should not hesitate to advise an immediate exploratory operation and be prepared to perform an immediate radical operation if the biopsy reveals malignancy. If his examination shows definite malignancy he must decide upon its operability and plan the operation as a commanding general plans the strategy of battle. If the disease has progressed considerably with the question of favorable operability in doubt it is well to call in an honest experienced radiologist and let the two bring some real teamwork into the case. In the present status of the cancer situation I would say that the surgeon who operates on an advanced incurable carcinoma is reprehensible, and the radiologist who uses radiation alone for a definitely operable carcinoma is equally blameworthy.

The surgeon who operates for carcinoma has the life or death of the patient in his hands in a double sense. How far he can risk an immediate operative mortality to better insure a permanent cure requires almost uncanny surgical judgment. Makeshift operations have no place in operations for cancer. It is necessary to go wide of the disease in every direction if a permanent cure is to be expected. The surgeon who undertakes this work must be thoroughly conversant with all the avenues over which the disease advances and cut centrifugally to the probable furthest limits. If he expects to have a great many cures he must be ruthless in the removal of tissue and regardless of the length of the scar. Here the viewpoint should be the exact opposite from that when operating for benign conditions.

It is common observation that many operations for cancer are undertaken which are hopeless from the start. The decision between operability and inoperability is of the utmost importance. It does not contribute to the success of the fight against cancer to operate on hopeless cases, unless it is clearly understood in advance that it is purely palliative to mitigate pain or to get rid of sloughing tissue. In cases frankly inoperable it is usually better to treat them with radium or x-ray or other palliative or curative measures rather than to operate when it is known in advance it will do no permanent good or produce no amelioration of the patient's condition.

Before any great progress is made there will

have to be genuine cooperation among the medical men, the surgeons, the pathologists, the radiologists and the public.

TABLE IV
Cancer of the Stomach
David Cheever Reports as Follows:

Duration of symptoms before admission of 220 cases.		
Less than 2 weeks.....	2	0.9 per cent
2 weeks to 1 mo.....	5	2.3 per cent
1 to 2 mos.....	24	10.9 per cent
2 to 4 mos.....	52	23.6 per cent
4 to 6 mos.....	28	12.6 per cent
6 to 12 mos.....	65	29.5 per cent
12 to 18 mos.....	12	5.5 per cent
18 to 24 mos.....	21	9.5 per cent
2 to 2½ yrs.....	4	1.8 per cent
2½ to 3 yrs.....	5	2.3 per cent
More than 3 yrs.....	2	0.9 per cent
Analysis of operability of 236 cases.		
Frankly inoperable	124	52.5 per cent
Explored, found inoperable....	24	10.1 per cent
Palliative operation	53	22.4 per cent
Radical operation	23	9.7 per cent
Operation refused	12	5.0 per cent
Of the 23 cases of radical operation, 3 were alive 5 years after the operation. This would be 13 per cent of the radically operated cases, or 1.2 per cent of all cases seen.		

TABLE I
U. S. Mortality Reports—Deaths from Cancer or Tumor

Rate Per 100,000 Population in Registered Area			
Rate of Increase in Brackets			
	1900	1910	1920
Registered Area	63.0	76.2 (20.9%)	83.4 (9.4%)
Rate in states per 100,000 population 45 years old and older.			
	1900	1910	1920
Connecticut	263.6	316.8 (20.1%)	429.5 (35.5%)
Maine	283.4	328.6 (15.9%)	409.0 (24.5%)
Massachusetts	288.8	364.5 (26.2%)	450.2 (23.5%)
Michigan	251.3	294.4 (17.1%)	358.6 (21.8%)
New Hampshire	243.6	317.6 (30.3%)	395.7 (24.6%)
New Jersey.....	238.5	323.4 (35.6%)	380.6 (17.7%)
New York.....	264.7	345.3 (32.9%)	413.2 (12.7%)
Rhode Island.....	264.0	351.1 (32.0%)	395.9 (12.7%)
Vermont	296.2	372.1 (25.6%)	398.5 (7.1%)

TABLE II Cancer of the Breast Greenough and Simmons			
	No. Cases	Alive 5 Yrs.	Per-centages
1. Early favorable	14	10	71
2. Favorable	26	9	33
3. Average	29	3	10
4. Advanced (Palliation)....	17	1	5
5. Hopeless (No operation)	9	0	0
Total.....	95	23	24.2

TABLE III
Cancer of the Breast
Group 1. Not x-rayed after operation.
Group II. Scar x-rayed lightly.
Group III. Intensively x-rayed after operation.

Tichy in Marburg			
	Group I (1904-1914)	Group II (1914-1917)	Group III (1918-1919)
Total number	62	61	11
Recurrence within 1 year.....	7 (11.2%)	23 (37.7%)	5 (45.5%)
Metastasis developed	3 (4.8%)	7 (12.1%)	
Recurrence within 3 years.....	20 (32.2%)	37 (60.6%)	2 (18%)
Free of recurrence after 3 years.....	24 (38.7%)	23 (37.7%)	
Free of recurrence after 5 years.....	13 (20%)	19 (31.8%)	
Perthes in Tübingen			
	Group I (1910-1912)	Group II (1913-1916)	Group III (1916-1918)
Total number	130	144	72
Recurrences within 1 year.....	37 (28.0%)	55 (38.2%)	30 (41.0%)
Recurrence within 3 years.....	62 (47.5%)	78 (54.2%)	
Metastases without local recurrence.....	14 (11.0%)	18 (12.6%)	13 (18.0%)
Free from recurrence after 3 years.....	50 (38.5%)	44 (30.5%)	Multiplicity of internal metas- tases very marked
Free from recurrence after 5 years.....	36 (27.7%)	5 (20.3%)	
Free from recurrence after 6 years.....	32 (24.6%)	5 (20.3%)	
Kastner in Leipzig (Payr's Clinic)			
	Group I	Group II	Group III
Total number	69	22	42
Recurrence within 1 year.....	33%	36%	47.6%
Therefore Payr for the time being dispensed with the x-ray.			

THE RELATION OF THE RESPIRATION
AND THE CIRCULATION*

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Recently Dr. Henry Sewell of Denver has written that "Every thinking physician recognizes that he is likely to understand his sick man in proportion as he apprehends clinical physiology". This sentence has encouraged me in presenting a phase of clinical physiology, which I believe deserves emphasis to a body of thinking physicians, because of its importance in understanding more fully symptoms of heart disease and in rationalizing the treatment of cardiac failure. I wish to present to you the conception of the heart as a respiratory organ. This conception necessarily requires a broad definition of the respiratory function. The essential function of respiration is to supply oxygen to the tissues and to remove carbon dioxide. Viewed in this light respiration forms a large and complex part of physiology, and involves the correlation of various organs and structures. The lungs, the heart, the blood itself, the systemic capillaries and the tissue cells all have their specific duties to perform in the supply of oxygen and the removal of excessive carbon dioxide. The correlation of the activities of these various organs and structures is regulated partly by their own interaction and partly by certain nervous structures found in the medulla. It is a formidable tangle, but for our purpose it may fortunately be simplified by considering only certain relations, and leaving others for the time being out of view. The relation to which I want to direct your attention especially is the part played by the heart in the gaseous exchange between the blood and the fixed tissues, and to discuss briefly the results of the failure of the heart to do its proper share in promoting what is called the internal respiration.

If you will think for a moment of the commonest symptoms presented by patients suffering from heart disease, you will recall that these symptoms except for palpitation are not referable to the heart itself, but to the body as a whole expressed as weakness, fatigue and malnutrition, or to the breathing expressed as dyspnoea or to the head expressed as dizziness, mental confusion and disturbing dreams. Pain in or about the heart itself is not an outstanding symptom of cardiac failure or decompensation when aortic aneurysms are excluded, and when exceptions are made of two forms of heart dis-

ease. In two cardiac conditions the symptoms are centered largely about the heart, namely in angina pectoris and in coronary occlusion. But in neither instance is the cardiac pain a symptom of circulatory failure resulting in a strict sense from cardiac inefficiency. The common symptoms of cardiac inefficiency are found in other parts of the body.

It is true that we must study the heart to determine why it is not able to carry out its functions normally, but we must study the body as a whole to determine the degree to which the heart fails to function normally. The severity of heart disease can not be properly evaluated by study of the heart alone. This must be decided by a study of the peripheral effects of the inefficient circulation, in those parts of the body where symptoms show themselves as disturbances in the capillary circulation where the blood and the tissues come as it were in contact.

The peripheral symptoms and signs of heart disease may be divided into three main groups. First those dependent on mechanical disturbances of the circulation. Secondly those dependent upon the disturbances of the internal respiration, that is disturbances of the exchange of gases between the blood and the tissues and thirdly those dependent upon a disturbance of the circulatory mechanism designed to meet the extra calls of the body for oxygen incident to exertion of every sort. It is impossible actually to separate these groups distinctly, as they are all interrelated, but for purposes of discussion this division may be of value. I wish to discuss especially the second and third groups.

Let us consider the symptoms and signs of heart disease that are to be attributed to a faulty supply of oxygen to the tissues. As every one knows, a constant supply of oxygen is the essential requirement for life of the body as a whole and for the activity of every cell in the body. The human body is provided with a wonderful mechanism, equipped and arranged not only to meet the oxygen needs of every cell but to respond almost instantly to a call for an extra supply of oxygen to be delivered to any part of the body or to all parts. Of the many component parts of this extraordinary mechanism which are all required to be in good working order if health is to be maintained, the heart is one of the most important. But it is the star role played by the heart when an extra supply of oxygen is called for that adds greatly to its prestige in the animal organism. It is also by the inability of the heart to respond in a normal way to the call for an extra supply of oxygen from the tissues that the

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evidence of cardiac disease usually first manifests itself.

Before considering in detail the symptoms resulting from an insufficient supply of oxygen to the tissues, let us first review in general terms the mechanism for supplying the tissues with oxygen and the manner in which it responds to calls for an extra supply of oxygen. Its four essential component parts are the carriers of oxygen, the hemoglobin in the blood cells, the loading station for oxygen, the lungs, the unloading station for oxygen, the capillaries, and the engine that keeps the carriers moving between stations, the heart. Much is known regarding the normal action and the derangements that are apt to occur in all those component parts of what may be called the respiratory machine with the exception of the unloading station, where the blood and the tissues come into physiological contact at the capillaries. It is known, however, that the unloading facilities can be greatly extended in any part of the body by means of opening up of previously closed capillaries, and that this may be done very rapidly and wherever needed. Much recent work has been done on the subject of the relation of the capillaries to oxygen supply, especially by Krogh and his pupils. The functions of the carrier, the hemoglobin have only recently been studied minutely, and at this time many investigations regarding the remarkable properties of hemoglobin are being pursued. It is known that in healthy people the amount of hemoglobin found in 100 c.c. of blood can carry approximately 20 c.c. of oxygen, and that the blood takes up 95 per cent of this amount when exposed to the air in the lungs. It is known also that the blood gives up between 20 and 30 per cent of its oxygen as it passes through the resting body, bringing back to the lungs carbon dioxide in place of the oxygen it carried away. This unloading of oxygen is not however uniform in all tissues but is regulated according to their separate needs. The total amount unloaded also is not constant, and under conditions of exercise at least 60 per cent of the oxygen present in the blood may be given up to the tissues. This is one of the most important means by which the extra call for oxygen is met.

The unloading station, the lungs, draws in about six liters of air per minute during rest from which the blood takes up approximately 250 c.c. of oxygen. With an extra call for oxygen the pulmonary ventilation may be increased ten fold and 2000 c.c. of oxygen may be taken up by the blood each minute. Every one is familiar with the increase of rate and depth of breathing that comes with exercise, but the realization of what it means is not so simple, and the method of its

production by carbon dioxide is a most interesting subject, which time forces us to pass by. As you know the amount of oxygen taken up by the blood from the lungs is used as a measure of the so-called metabolic rate, and you know that the metabolic rate is raised by exercise, by food, by fever and by certain disorders of which exophthalmic goiter is the most conspicuous example. This means that these conditions add an extra demand for oxygen by the body, which is met by a larger utilization of oxygen than occurs in a normal individual at rest and in a fasting state.

How is this extra demand for oxygen met by the respiratory machine? Increased pulmonary ventilation does not meet it, any more than a pile of merchandise in a railroad warehouse satisfies the people along the railroad who want their goods delivered. When the call is excessive and the merchandise is at the station, the delivery is a railroad problem. In exactly the same way is it the task of the heart to meet the transportation demands when there is an extra call for oxygen. If the heart can't do it, the complaints come from all along the line in the form of symptoms of cardiac failure. What means are employed for carrying the extra amount of oxygen the body needs? A railroad would send more cars between the points of shipment and distribution, and use more motive power, more engines to pull the increased loads. The human body does this and something more. There is a constant flow of carriers in the form of red blood corpuscles in the circulation between the loading and unloading stations, but they return when the body is at rest only partly unloaded. When the call for oxygen increases with bodily exertion, then the carriers are more fully unloaded in the capillaries, and each one returns to the lungs capable of carrying away twice as much oxygen as before. The increased unloading of the oxygen leaves more space also for the transportation of CO_2 from the tissues, which in turn by a beautiful mechanism maintains the increased pulmonary ventilation. But now let us consider the motive power of the respiratory machine, the heart, and inquire how it behaves during an increased demand for oxygen. It obviously increases its number of beats per minute from about seventy during bodily rest to twice that number or more. In this way twice as much blood is circulated per minute, provided the cardiac output per beat remains the same under conditions of rest and exercise.

The question of whether the cardiac output increases or remains constant when the amount of blood put out per minute is increased is now under discussion. For many years it was believed that the healthy heart was capable of augmenting

its output per beat, but recently evidence has been obtained by Douglas and Haldane that the output of each heart beat is constant regardless of the rate of the heart, (at least for one individual, Douglas, whom they studied very carefully). Yandell Henderson has recently defended this conception. After working on this subject I am inclined to believe that individuals differ in this particular just as different species of animals apparently differ.

I wish to show you some figures which Dr. Burwell and I have obtained bearing on this subject, the results of an experiment on a normal resting subject.

Subject at complete rest, fourteen hours after food.

Oxygen absorbed per minute	= 236 c.c.	
CO ₂ produced per minute	= 200 c.c.	
	O ₂	CO ₂
	vol. per cent	vol. per cent
Arterial blood	= 23.59	44.75
Mixed venous blood	= 17.62	49.61
Oxygen capacity	= 24.83	
Oxygen utilized	= 5.97	
CO ₂ produced	=	4.86
		per cent
Oxygen saturation, arterial blood		= 95.1
Oxygen saturation, venous blood		= 71.0
Percentage of O ₂ utilized		= 24.1

Blood Flow Determinations

On the basis of oxygen consumption

O ₂ consumption per minute	= 236 c.c.	
Cardiac output per minute	$= \frac{236}{5.97} \times 100 = 3953$ c.c.	
Output per beat	$= \frac{3953}{70}$	= 66.5 c.c.

On the basis of CO₂ production

CO ₂ production per minute	= 200 c.c.	
Cardiac output per minute	$= \frac{200}{4.86} \times 100 = 4115$ c.c.	
Output per beat	$= \frac{4115}{70}$	= 58.8 c.c.

It is too long a story to describe the method by which the gaseous content of the mixed venous blood has been obtained. The method which has some new features in it that allow its application to patients with heart disease, will be published soon. The gaseous content of the arterial blood was obtained by measuring it with the Van Slyke apparatus in blood drawn directly from the brachial artery, a procedure that may be carried out, when certain precautions are followed, as easily and with as little pain as venous puncture.

These figures are in substantial agreement with observations on normal resting subjects by one

group of workers in this field, while another group have found a larger output of the heart per minute. Carefully controlled and repeated experiments however have forced us to conclude that our results are correct. This experiment indicates that under the conditions of the experiment an average of about 6 c.c. of oxygen is taken from every 100 c.c. of blood that passes through the systemic capillaries, and that about four liters of blood must pass through the capillaries each minute in order to distribute the 236 c.c. of oxygen which the body utilizes each minute. Unfortunately we have not as yet obtained any results from patients suffering from heart disease, but studies by Lundsgaard and by Meakins have indicated that there is a distinct diminution in the minute output of the heart even at complete rest in such patients. Meakins and his co-workers think they have shown a diminution of approximately 50 per cent of the minute output of the heart in uncomplicated cases of mitral stenosis at rest. And yet the same total amount of oxygen is utilized by the body per minute. This result can be brought about only by a utilization of a greater percentage of the oxygen present in the blood than is normally used. Harrop and others have shown that this is actually what happens in heart disease. Then you may ask, if the blood can supply more oxygen when needed by giving up a greater percentage of its oxygen, why do patients with uncomplicated mitral stenosis have symptoms? It is because one of the fundamental factors of reserve, one of the factors of safety, has been called upon under a condition of rest, when normally it is not called upon. Many such patients do not have symptoms when at complete rest. But when an extra call is made by the tissues, especially by the muscles during exercise, the respiratory machine must fall back upon its other fundamental factor in bringing more oxygen to the tissues, namely an increase in the amount of blood put out by the heart per minute. This mechanism must stand the brunt of the call, and the heart, in this instance a damaged organ, must do its best to meet the demand. The result is an abnormal acceleration of the heart rate, out of proportion to the amount of exertion, so commonly observed in heart disease.

The fact that a larger proportion of the oxygen is withdrawn from the blood in its passage through the capillaries is responsible in part for another common evidence of cardiac failure, namely cyanosis. The bluish color of the lips, mucous membranes and nail beds that we call cyanosis is merely an indication that the capillaries determining the color of these parts contain a larger absolute amount of hemoglobin from

which the oxygen has been withdrawn, that is reduced hemoglobin, than is normally present. Cyanosis appears according to Lundsgaard and Van Slyke when the mean capillary oxygen unsaturation of the blood amounts to about six and a half volumes per cent. Or expressed differently it means that cyanosis appears when about thirteen volumes per cent of oxygen are taken out of every 100 c.c. of blood instead of about five or six volumes per cent as normally occurs in normal resting subjects, provided the blood is carrying away from the lungs its full quota of oxygen. As a matter of fact cyanosis is usually caused by a combination of underloading of the blood with oxygen in the lungs and excessive unloading in the capillaries. This excessive unloading always occurs when the rate of the blood flow is abnormally slow, and it may by itself lead to cyanosis. But as a rule in heart disease edema of the lungs and other factors that may be present, especially emphysema, play a large part in the production of cyanosis. When observed it means that the blood contains an excessive amount of hemoglobin from which the oxygen has been taken, and may be invariably considered as a sign that the oxygen supply to the tissues is inadequate.

Dyspnoea, the commonest early complaint of patients with heart disease, may also be blamed upon an undersupply of oxygen and a resulting over production of carbon dioxide and other acid substances. Much study has recently been given to unraveling the complex problem of the mechanism responsible for its production. The facts that have been learned still fail to give a complete explanation of cardiac dyspnoea, but it is safe to say that here again is an instance where the respiratory machine fails not primarily on account of inefficiency of the lungs, but because the heart is not able to do its part in supplying the tissues with their normal requirement of oxygen.

Cardiac dyspnoea is however in part caused by changes in the lungs themselves, changes apparently produced by the disturbance of the pulmonary circulation as a result of cardiac failure. Peabody has especially emphasized the diminution of the vital capacity of the lungs in cardiac patients, and has shown that the amount of air that can be expired after the deepest possible inspiration is diminished in amount in proportion to the degree of cardiac insufficiency. Binger has just published a careful study of the lung volume of normal persons and of patients with heart disease, and has found that the latter have a larger residual air and a smaller vital capacity than normal individuals in proportion to the total lung

volume. Patients with heart disease are able to use less of their whole lung capacity in forcible ventilation than is the normal person. So it is seen that heart disease disturbs the respiratory machine at its loading station as well as in its transportation department. Instead of having the lungs in a state in which they can work with increased efficiency, their efficiency is diminished.

What I have said has been expressed more with the object of presenting a point of view, than of imparting facts that may be new to you. As I said at the outset, the conception of the heart as a respiratory organ, as part of what I have called the respiratory machine, is one that I believe to be helpful in understanding many of the symptoms and signs of heart disease. This conception calls for one point of view in regard to the treatment of heart disease, and makes it an attempt to answer the question in any particular case, how can the condition of the patient be altered so that the supply of oxygen is more nearly adequate? This question must be considered from two points of view, namely that of increasing the supply of oxygen to the tissues and that of diminishing their requirements of oxygen. When this question is properly answered by action based on the two considerations I have mentioned, your patient with heart disease is being treated in the best possible way.

THE SURGERY OF SPASTIC PARALYSIS*

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Paralysis is either flaccid with involvement of the lower motor neurone or spastic with involvement of the upper motor neurone. The surgical treatment of the flaccid type as applied to infantile paralysis is more frequently discussed and is more widely known than that of the spastic type. Indeed, many of the modern text-books devote but a minimum of space to the subject of treatment of this condition. While the prognosis is not what one may term favorable in many cases and distinctly unfavorable in others, the outlook is not as hopeless as is generally believed. It is for this reason that the subject is brought before you today.

Cerebral spastic paralysis for clinical purposes may be classified as (a) congenital, (b) those acquired intra partem, and (c) those acquired post-partem. The pathology varies with the etiology. In the congenital type there may be absence or under-development of entire convolutions or va-

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rious degrees of porencephalitis. In Little's disease there is probably imperfect myelinization of the pyramidal tracts in children prematurely born. In those due to injury at birth the pathological end result is dependent upon brain contusion and intra cranial hemorrhage with thrombosis congestion and edema or cyst formation involving destruction of the cortical cells in a considerable area. In some cases only slight irritative lesions result. Those acquired post-partem result from the various forms of meningitis and encephalitis, the pathological end-result being due to the associated inflammatory processes involving meninges and cortex.

The clinical picture will vary with the location, degree and extent of the cerebral involvement. The three components, muscular weakness, spasticity and inco-ordination are present in all possible combinations. The mentality is infrequently affected and here too, impairment may be either slight or of very marked degree, amounting to actual idiocy. In most cases certain muscle groups are much more affected than others so that disturbances of muscle balance results. This becomes evident on attempts at walking when the weakness, inco-ordination and spasticity give rise to most awkward movements. When the spastic element predominates, the entire child may be rigid. In other cases the spasticity merely gives rise to a slight peculiarity in gait. The muscular weakness may be completely over-shadowed by the spasticity. The so-called scissor leg gait in which the adductors of the thighs are overactive is characteristic of one of the common types.

Normally all muscles are in a state of constant moderate tonus resulting in what may be called a normal muscle balance. When this tonus is unequal, disturbance of muscle balance results and awkwardness in gait or other movement follows. This normal tonus depends upon an intact reflex arc including both cerebral and spinal elements. Sensory stimuli reaching the cortex are transformed into efferent or motor impulses traveling down the upper motor neurones which connect with the anterior horn motor nerve cells in the spinal cord. It is assumed that in cerebral injuries associated with hemorrhage the function of the inhibitory fibres in the pyramidal tracts is interfered with so that their dampening or regulatory effect is lost. The excitation of the lower motor neurones is therefore excessive and results in over-action of the muscle groups involved.

With this brief sketch of the physiology and pathology we may pass on to a consideration of the remedial measures. Muscle training deserves first consideration. It has been well said that

the success of every method depends finally on muscle training but before muscle training can be applied to advantage, existing deformities must be corrected. Thus a long continued over-action of the thigh adductors will result in adduction contracture deformity and contribute to the scissor leg gait and no amount of training will overcome this. In fact, efforts at muscle training before correction of deformity may be counted as time wasted. The first thing to determine therefore, is the presence or absence of deformities due to muscle contractures and correction of these when they exist. Shortening of the adductors of the thighs and of the heel cords is very frequent while flexion contractures at the hips and knees are also quite common. Correction of these deformities is accomplished by simple tenotomy or myotomy or by gradual stretching. Having overcome these obstacles, the logical attack is on the reflex arc, the unregulated activity of which is responsible for the muscular spasticity and inco-ordination. Direct attack on the intra cranial lesions has been advocated by Sharpe and Farrell of New York. They published a series of sixty-five carefully selected cases subjected to bilateral decompression in all but four of which they found a supra-cortical lesion, most often a cyst. These cysts were punctured and the walls removed as far as possible. In about 40 per cent more or less improvement resulted. The improvement they attributed to diminution of pressure on the cells of the surrounding cortex.

In cases of spastic paralysis associated with Jacksonian epilepsy Krause and others have recorded improvement in a few cases following an attack on the cortical lesions. On the whole, however, results of intra cranial surgery have not been encouraging, at least in cases of long standing.

Foerster has attacked the reflex arc on the sensory side by laminectomy and section of the posterior nerve roots corresponding to the spastic muscle groups and while he has had excellent results in a comparatively large series of cases, this operation has never become popular on account of the relatively high mortality. In collective statistics the mortality has reached 15 per cent. Many of the cases are very poor surgical risks.

In 1911 Stoffel added a new procedure to the surgery of spastic paralysis by neurectomy or resection of sufficient portions of the motor nerves to the over-acting muscles. Thus in case of adductor spasm resulting in scissor leg gait, the obturator nerve supplying the adductor muscles is resected, resulting in sufficient weakening of this group to balance the adductors against the antagonistic abductors with immediate relief of

spasm. This operation of nerve resection has been used for relief of spastic over-action of practically all groups in both the upper and lower extremities. In the lower extremities resection of the nerves for spastic flexion of the knee and for plantar flexion of the foot are often required. Sometimes also lateral deformities of the foot due to spasticity of pronators and supinators resulting in valgus and varus deformity respectively call for correction.

Where, as in the case of the adductor muscles the isolated nerves can be attacked, the problem is somewhat simpler than in cases where the nerve to be resected forms a part of the larger nerve trunk from which it must be isolated before resection. Stoffel has done a real service by his painstaking studies on the internal anatomy of nerve trunks. He found that the individual peripheral nerves can be traced upward some distance into the common nerve trunks as separate strands which can be isolated readily from the main trunk, also that in the larger nerve trunks these different strands occupy more or less definite relations to one another. They are not gathered into a common cable to mingle indiscriminately. Thus in a cross section of the median nerve, the fibres to the pronator radii teres occupy an antero-lateral position, while the bundle for the finger flexors occupies a dorsal position in the trunk. This internal anatomy of the larger nerves has been worked out in great detail by Stoffel and while some doubt has been cast on the accuracy of his work by several investigators who have not been able to confirm his findings, it seems to me entirely logical that a more or less definite relation should exist.

While this definite arrangement of the individual nerve bundles in the larger trunk is of great value in the isolation of nerves to spastic groups, accurate determination by means of an electrode should be resorted to, in order that there may be no doubt as to the identity of the nerve tract to be resected. The suspected nerve tract is very carefully freed from the main trunk for a distance of several centimeters. The strand is then lifted away from the trunk and gently stimulated with a needle electrode, using the very weakest current which will still elicit a muscular contraction. By observation of the resulting muscle contraction, the identity of the nerve bundle is determined beyond question. Depending upon the degree of spasticity a portion of the nerve bundle so isolated is resected a distance of about 5 centimeters, the thickness varying as a rule between one-half and two-thirds of the whole bundle.

In a number of cases in our own series both

obturator were reached from a single transverse supra pubic skin incision following the technique described by Seelig, with separate approach through the right and left rectus for the right and left obturator nerves. The latter are reached on the inside of the pelvis but extraperitoneally just before their entrance into the obturator foramen on each side. For resection of the nerves to the spastic ham string muscles the sciatic is reached in the mid thigh posteriorly. Spastic equinus is remedied by partial resection of nerves to the gastrocnemius and soleus group, the incision being made in the popliteal space and the respective nerves isolated. The same procedure has been used for over-action of the triceps in which the posterior cord of the brachial plexus is reached at the upper arm on the medial aspect while the over-acting pronator radii teres is dealt with through an incision on the median aspect of the arm exposing the median nerve. The technique for reaching other groups has been carefully worked out. This operation is used more and more and promises to maintain an important position in the surgical relief for spastic paralysis.

Much the same principle actuated Allison, who advised alcohol injections into the nerves to the spastic muscles and Jones who advised crushing of the nerves, the idea being to temporarily paralyze the nerve and during the paralytic period to train the antagonists to more effectually establish muscle balance for proper control of the joints.

While over-correction following resection of too large a portion of nerve is entirely possible, this seems to be a rare occurrence. Resection of an insufficient portion and incomplete correction has been recorded more often. Over-correction of course, may result from simple tenotomy after injudicious lengthening of a tendon. For this reason an open tenoplasty in spastic paralysis is preferable to simple closed tenotomy to prevent extreme retraction of the cut ends of the tendon of the spastic muscle and non-union. The latter would result in deformity in the opposite direction. In a spastic equinus this is a very serious mishap, since a calcaneus deformity resulting in a heel walk is much more disabling than the spastic equinus.

Aside from the above remedial measures, recurrence to tendon transplantation is sometimes necessary. Thus the flexor carpi ulnaris and radialis may be transplanted to the dorsum of the wrist to overcome spastic wrist flexion and in the forearm the pronator radii teres may be converted into a supinator after the method of Tubby for spastic pronation of the forearm.

Contra-indications to any of these more rad-

ical procedures are marked athetosis, also spasticity so diffuse and inconstant that no particular group may be considered as dominating the picture, and marked mental impairment rendering the patient unable to cooperate in the tedious after-treatment or unable to utilize possible improvement in locomotion.

In this connection due allowance must be made for the rather remarkable mental improvement sometimes accompanying improvement in locomotion. It is just as though the child's mind formerly engrossed in combating ungovernable trunk and extremities is now freed from this burden and ready to receive and act more co-ordinately on the incoming sensory stimuli.

A rigid course of after-treatment is absolutely essential to success, no matter what surgical measures are employed and this point is emphasized by all as the crucial point in every method. This is best carried out under supervision of a trained personnel able to give the children sufficient time and to instruct the parents in the use of simple apparatus in the home. Walking bars, pendulum exercises, obstacle walking and a number of other devices and above all, infinite patience on the part of both physician and trainer are essential.

As to prophylaxis, much may be done by the obstetricians to prevent the development of these deplorable effects in the cases due to intra cranial hemorrhage in the new born. The need of careful pelvic measurements before delivery and substitution of Caesarian section for high forceps with their well known attendant dangers should be emphasized. Sharpe urges careful examination of infants during the first days of life, especially in cases of difficult labor, for early signs of intra cranial hemorrhage and prompt decompression when necessary. Sharpe, Cushing and others have operated successfully on a considerable number of such infants. In view of the distressing character of the late results of hemorrhage, early operation holds out the greatest hope.

AFTER DINNER TALK—FOR THE FIFTIETH ANNIVERSARY DINNER

H. B. YOUNG, M.D., Burlington

(The medical profession of Burlington, to express its appreciation of Dr. H. B. Young, gave him a dinner August 13 in honor of the fiftieth anniversary of his practice.

This courtesy has become an unwritten law in some cities and is to be commended as a graceful thing to do. It is with a feeling of unusual pleasure that we publish Dr. Young's response and we are

sure that the members of the Society will read his words with equal pleasure.—Editor.)

Mr. Toastmaster:

I do not know if I shall find suitable words for it—I can only hope you will understand that I feel tremendously complimented and honored by this recognition of my "jubilee" in the practice of medicine. And that, even, strikes me as a feeble way of putting it when I realize, as I must, that for a matter of twenty years I have been so at variance with the most of you on measures for medical solidarity that I have, in a large way, had to flock by myself. This was the dernier resort, sure enough; and, as common in dernier resorts, it did not lack my wish that it might have been otherwise. But when one elects to hold to the truth as he sees it, and thereby maintain his self-respect, he automatically commits himself to the doctrine so pungently proclaimed by the republican vice-presidential candidate, when quizzed by a committee of congress about extravagance over seas. You will remember that when his patience was exhausted he burst out with, "Hell! We were not over there to keep a set of books. We were there to win the war." So with self-respect; undeniably an expensive luxury, but the cost to be disregarded when the end in view would bring an incomparable satisfaction. I trust, therefore, that I may be pardoned if I see in this gathering some evidence that the regrets were not all on my side; as well as a little proof for my contention of those bygone days that in the scheme for reorganization, which I rejected, the cart had been placed before the horse.

That I have reached the fiftieth milestone on the journey is just God's mercy; that you are here to help me celebrate, can only mean that an honest effort to hold your respect and confidence has not failed of its purpose, despite my non-conformity. There's a world of satisfaction in this, and that satisfaction is not dimmed by the reflection that you have now made it superfluous to indulge in the usual "saying it with flowers". And speaking of flowers reminds me that I did have one little bouquet handed me in the old controversial days. After a rather hectic session, my venerable friend, sometime from Missouri, said, "Young, I dearly love a scrap with you, because I know I am in no danger of being hit below the belt", or words to that effect. There may have been some extravagant phrases that any censor would delete.

The record of any fifty-year period is naturally marked by many changes in men and methods. The world does not stand still, and whether one of these periods surpasses another in importance has, many a time, been a subject for discussion.

In some, the changes may have been but the expression of nature's inexorable law, that men shall rise and fall, or the evolution (with apologies to W. J. B.) natural to new conditions and the urge for a larger life. But not in my particular half century; for have I not watched the careers of as great history makers as the world has ever known (I have even seen the leader of the greatest lost cause, Wm. Hohenzollern), and have I not witnessed the advent of the telephone, the phonograph, the electric light, the automobile, the airplane, and radio? In fact when I recall that part of my youth was spent in the tallow-candle age (how often I have helped my mother make the winter supply, and seen her light the extra one when the preacher called), the spinning wheel age (how fascinating the whirl of the spinner as it changed the rolls into yarn that was to go into my socks and mittens), the ox-team age (faintly comes the echo of "Gee", or "Haw", for "Buck and Berry"), and the age when many of these fields that are now dotted with shocks of yellow grain were wide open spaces decked with flowers, I feel sure that there has never been a half century so eventful. Nor do the changes in the medical world serve to disturb this conviction; on the contrary, they rather cap the climax in an age of progress.

But impressed as I am by the great strides medicine has made, my mind runs more just now to the peculiar fact (a little story involving reference to ancient history, but appropriate to the occasion) that I broke into the paddock just as the bugle sounded for this great race. For it was just fifty years ago that the turning point was reached in medical education.

Up to this time it had been the universal custom of colleges in this country to confer the degree after attendance upon two courses of lectures, covering the whole field of medicine in a period of five months; and the second course the replica of the first. But with these stipulations: That the two courses should be separated by as much as twelve calendar months, and the remaining fourteen months spent in service with an established and reputable physician. Final requirements were the submission of a thesis (still the best, although long discarded, means of testing the candidate's ability to think constructively), and a proper standing upon examination.

The Chicago Medical College, then rather nominally the medical department of Northwestern University, now wholly submerged in it, had just added a month to each of its lecture periods, and offered a graded system of instruction to be completed in three periods instead of two. As an inducement for students to adopt this system the third year's instruction would be given for the

matriculation fee only, and there would be thrown in, for good measure, a six months' service as hospital interne for each of the two ranking members of the class, at the end of the second year.

Following the advice of my father, a physician well known, as our guests from Monmouth would tell you, for his devotion to high ideals, I matriculated for the three years' course; and I happened to be good enough at the end of the second year to draw one of the hospital appointments. Thus it came about that on August 18, 1874, a little over seven months before I got 'my degree, I was installed as house surgeon in Mercy Hospital, Chicago. This position has since been occupied by two other Burlingtonians, Drs. Tombaugh and W. P. Kriechbaum. My immediate successor was Roswell Park, who attained prominence in Buffalo, as surgeon and author.

The duties and responsibilities I had to assume, and these were considerable (because members of the staff, outside of their regular visits for supervision, could only be called, by special messenger, for dire needs), did not weigh so heavily upon me as the new title of "Doctor" which I was thenceforward to support. Although I knew that there would be none to dispute my right to it, because the staff had set the example, I could not, for some time, escape the feeling that without a diploma I was sailing under false colors; and this suggests the question, doubtless uppermost with those of you who have had four years of instruction and complied with exacting registration laws: "How did I get by with it?" Well, I confess that I have asked myself that question more than once; also that I have never been exactly satisfied with any of the answers I have concocted. The fact that any man, if so disposed, could then use the prefix of "Doctor" without violating any law, plus the fact that some men, with less preparation than mine, had made a success of it, showed only the possibility for me. And it was only half an answer that I might have been fairly equipped for the things then expected of a young doctor; for, as you know, many of the things common today, the appendectomies, drainage of the gallbladder, gastroenterostomies, excision of the mastoid, tonsillectomies, blood counts, Widal tests, indican tests, etc., had not arrived. In the then standard range of activities, however—fevers, confinements, traumas with and without fractures, tumors, hernias, diseases of the heart, disorders of the genito-urinary apparatus, etc.—when the stethoscope was the only scope worth mentioning; when the occurrence of pus (even the "laudable" kind) was just one of the "fortunes of war", and the only bugs to be excluded were blow-flies, lice and bed-bugs, there

was no dearth of opportunities to "make a spoon or spoil a horn". If I once or twice accomplished the seemingly impossible, I may have wrought better than I knew, just as I, or perhaps most of you, may have since done; but it may be noteworthy that the records do not show that I ever "pulled a dreadful boner". I even entertain a conviction, fortified by an intimate knowledge of hospital work in this locality since the founding of St. Francis Hospital in 1882, that in proportion to the number of patients handled I made out no more death certificates than falls to the lot of the present incumbent of my position. He is of course "longer" in the science of medicine than I was; and that, because science is the father of preventive medicine, may enable him to escape some of the distressing situations that I had no means of dodging. But when distressing situations must be confronted, as they still must be, science may be insufficient. Then art must step in to fill the gap. Not just the refinement of technique, as some now interpret art, but art in the sense of the creative spirit, the daring to build out of poor material and with indifferent tools.

Of this art it is probable that I got more than the present incumbent has gotten (evening us up a bit); for those were the days of clinical medicine—teaching and practice, par excellence—the days when the patient was treated as a personality more than as a "case". And there were great diagnosticians in those days, surgeons too; even Moses Gunn was recognized as something more than the "man on horseback". If any of them "passed the buck" I did not see it. They must have thought of that as my prerogative; and if I exercised a modicum of tact in it, that may be another explanation of how I got by. After all it's just as much a question of how the house surgeon of today gets by. Even sympathy may not be out of place. A beginner, like me, in the application of knowledge there is so much more knowledge to be applied. When the knowledge is collated that comes from the microscope, the ophthalmoscope, the otoscope, the nasopharyngoscope, the bronchoscope, the esophagoscope, the cystoscope, the endoscope, the "tycos", the electric transilluminator and the fluoroscope, how disconcerting the report of "findings negative", when the patient is expecting, from it all, something as wonderful as making "a silk purse from a sow's ear".

Do not take it from this that I would decry the value of this knowledge, or belittle the bridge that carried me over. There was more in the three years' course than in the two years' course; just as there is more in the four than in the three. But there may be such a thing as lop-

sided growth when the growth is fast; and we have been growing fast. The ideal doctor, which we have been bending all our efforts to produce, regardless of expense, is no more with us today than he was fifty years ago; and mostly because science is in the saddle. Science makes for efficiency, but it is destructive of that human touch which has made great doctors in the past; and if our worship of science has caused us to lose that human touch small wonder is it that we should come to be looked upon as plumbers and chemists, and hired in the same way. And with such an outlook, what is it all when all is done? Maybe I can tell it best with a little story, a true story too, for I knew the men, both long since gone to their rewards, whom I shall designate as Dr. A. and Dr. B. They had offices on opposite sides of the street. Both were skillful. Both were bluff; but Dr. A.'s bluntness was a mask for a tender old Irish heart. One day a woman rushed her child into Dr. A.'s office hysterically gasping, "Doctor, my little boy has a penny stuck in his throat. Can you take it out?" The doctor besought her to be calm until he could see what had to be done, but he had hardly gotten the child into position for an examination when the mother again burst out with, "Doctor, can you take it out? Can you take it out?" Turning deliberately, Dr. A. said crisply, "Madam be quiet, and give me a chance. Then, if I fail, I will send you across the street to that wise old man, called Dr. B. They say he'll take the last cent anybody's got." Dr. B. had evidently lost the human touch. But I don't want to leave such a reputation; and neither do you. So taking the back track a little may not be out of place. Not all the new is good; not all the old bad.

This is not intended as a swan-song. It is just a brief outline of my medical creed, and how I got it. And if it is yours, and if you live, each one of you, to see your jubilee, you will experience the pleasure that is mine tonight, and more I could not wish for any of you.

CLARINDA HOSPITAL FOR THE INSANE

By Gershom H. Hill, A.M., M.D.

The Twentieth General Assembly enacted a law to make further provision for the care of insane persons. The governor, with the consent of the executive council, to appoint three suitable persons, who shall constitute a board of commissioners for the purpose of selecting the location and site, adopting plans and erecting an additional hospital for the insane of the state. The location shall be in the southwestern portion of the state and shall be selected with reference to

its healthfulness and accessibility. The site shall consist of not less than three hundred and twenty acres of land and shall be selected so as to secure an abundant supply of good water and an opportunity for the proper and efficient drainage and no gratuity or donation shall be received as an inducement to such location.

That said board of commissioners shall procure and adopt the plan known as the cottage plans, and all buildings so erected shall be substantially fire-proof. The exterior of the buildings shall be plain and of brick. That there is hereby appropriated one hundred and fifty thousand dollars provided that not more than one-half of the amount shall be expended in the year 1884. When such buildings or any of them shall be completed, and ready for use, the commissioners shall notify the governor of the state and he shall at once take steps to organize the same by the appointment of a board of five trustees who shall hold their office until the next session of the legislature and whose qualifications and duties shall be the same as now provided by law for the trustees of the others of the state of Iowa, and the laws of the state governing the other hospitals and thus admission of patients thereto, so far as applicable, shall apply to and govern the hospitals herein provided for.

On the sixteenth day of July, 1884, the commissioners met again at Des Moines for the purpose of deciding upon the site of the new hospital. They had already visited and carefully inspected every site that was being offered as a location. After deliberation these gentlemen, by a majority vote, selected Clarinda as the place combining in the fullest degree the requirements of the statute under which they acted. The board also elected P. W. Lewellen, M.D., of Clarinda, as the first superintendent, who selected Dr. J. M. Aiken, assistant physician, M. T. Butterfield, steward, and Mrs. Alice W. Lewellen, matron.

DR. P. W. LEWELLEN

P. W. Lewellen was born in Indiana in 1840 and died at Brookfield, Missouri, March 20, 1905, and buried at Clarinda March 22.

Dr. Lewellen was graduated in medicine from the Medical College of Ohio, Cincinnati, March, 1865, and practiced medicine in Iowa twenty-one years.

Dr. Lewellen at the time of his death was about sixty-five years old. He came to Clarinda in May, 1865, to practice medicine, and was married to Miss Alice Weidner within a short time after coming to Clarinda. The deceased was a man of extraordinary attainments. As a physi-

cian he was considered of great skill and his practice was enormous.

His fine education and lovable disposition were early recognized by his neighbors, as well as by the state. For many years he was a trustee of the insane hospitals at Mount Pleasant and Independence. He represented this senatorial district in the Seventeenth and Eighteenth General Assemblies. He was largely instrumental in locating the insane hospital at Clarinda, as by his state-wide acquaintance he aided the Hon. T. E. Clark, who was his successor in the state senate, and also Hon. William Butler, the representative in the house, in furthering the chances of Clarinda for the location of the state institution of which he was the first superintendent for about six years.

Dr. Lewellen was elected the first superintendent of the Clarinda hospital which was opened December 15, 1888, and his wife was matron. He resigned his office and was succeeded by Dr. Hoyt in 1892.

The board of health was organized in 1880 and the board of medical examiners in accordance with an act of the Twenty-first General Assembly, held its first meeting on May 18, 1886 and was composed of seven physicians, namely, Dr. Robertson of Muscatine, Dr. Lewellen of Clarinda, Dr. Clark of McGregor, Dr. Reynolds of Centerville, Dr. George L. Roberts, Dr. Dickinson of Des Moines, who was the first Homeopath member and Dr. Justin M. Hull of Lake Mills, who was the eclectic member. At the temporary organization of the medical examiners, Dr. Lewellen served as chairman and Dr. Roberts as secretary. Dr. Robertson of Muscatine and Dr. Lewellen of Clarinda were appointed a special committee on by-laws and rules. At this time according to law the seven men balloted in order to determine how long each one of them would have to serve the state in this capacity. Accordingly Dr. Lewellen's term of office was five years. At the May meeting in 1888, Dr. Lewellen was excused from attending but he continued to serve the state as a member of the board of health until 1892.

DR. FRANK CRAMPTON HOYT

Frank Crampton Hoyt was born in Denver, Colorado, November 17, 1859. He graduated in medicine at the College of Physicians and Surgeons at St. Joseph, Missouri, in 1881. Afterwards he pursued a course of study in pathology at the University of Kentucky and Louisville. He founded and edited the St. Joseph Medical Herald. He had a scholarly mind and a talent for writing, as was shown by the numerous pa-

pers which he read before medical societies and his reports as superintendent of the hospitals at Clarinda and Mount Pleasant. In September, 1887, he was appointed third assistant physician in charge of pathology at the state hospital at St. Joseph, Missouri. Here for a period of nearly six years he carried on the work of the pathological department systematically and efficiently, obtaining and carefully studying much valuable material. As a result of these studies he published subsequently papers on "Pachymeningitis Hemorrhagica", "Tropho-Neuroses in the Insane", and "The Tropho-Neuroses of Paretic Dementia".

In 1893 he was appointed medical superintendent of the state hospital at Clarinda, and his administration of this institution was most successful. While in Clarinda he organized an excellent band to furnish out-of-door music in summer and an orchestra for in-door and winter evening entertainment. He also inaugurated a military drill for patients under a competent drill-master. He also carried on mechanical industries for patients, such as manufacturing clothing, shoes, brushes, brooms, furniture of all kinds, to a greater extent than any other state hospital of equal size; in addition, farm and garden operations were largely engaged in.

In September, 1898, he resigned and removed to Chicago, but was almost immediately recalled to Iowa to assume charge of the hospital for the insane at Mount Pleasant, owing to the death of Dr. H. A. Gilman. His administration at Mount Pleasant was good. He introduced many improvements, such as forced ventilation, electric lighting, new and larger kitchens, an associate dining room and an ample water supply.

He married in 1883 Miss Mattie Price Garner, of Richmond, Missouri, who, with three children, survived him.

He died suddenly in Kansas City, May 21, 1901.

VINCENT'S ANGINA OR TRENCH MOUTH*

GRACE O. DOANE, M.D., Des Moines

Vincent's angina is an acute infection of the mouth. The etiology of this disease is the action of the fusiform bacillus and spirillum on the tissues. The incubation period is six days. The onset is insidious. The world war has brought to our attention the study of this infectious disease.

The name Vincent's angina, is in reality er-

ronious, for the organism was described first by Rauchfuss in 1893, and in 1894 by Plaut, and not until 1896 by Vincent. The disease is often called Plaut-Vincent's angina.

In 1897 Vincent read a paper before the Paris Medical Society, in which he spoke of a tonsillar affection that he called a diphtheroid angina, associated with a fusiform bacilla and spirilla.

It is interesting to note the increase in the percentage of infections. For instance—1906 to 1918 from 0 to 2 per cent; in 1919, 5½ per cent, and in 1920, 10 per cent. The question of the increase of the disease may depend not only on the actual increase in numbers, but on our ability to recognize this type of infection.

It seems to be definitely proven that the fusiform bacillus and the accompanying spirochete are one and the same thing. The latter being an evolutionary form of the bacillus, but always present with the bacillus.

The rods are long and slender, with pointed or rounded ends, slightly thicker in the middle. They vary from 6 to 12 microns in length, and are usually scattered uniformly throughout the smears and present various arrangements, occurring in pairs, end to end, forming obtuse angles, in clumps and so forth. They stain fairly well with methylene blue, and aniline gentian violet, but are most clearly demonstrated with carbo-fuchsin. Authorities differ, but it is the general consensus of opinion that they do not stain with the gram stain.

The spirillae of the organism are long and delicate with pointed ends, presenting from five to eight curves actively motile. They stain much less intensely than the rods. Cultivation of this organism, while difficult and uncertain is not impossible by the anaerobic method. Cultures die out rapidly. On the second or third day of incubation, the characteristic odor may be recognized, and many active spirillae are present. In one strain that was cultivated for several generations, the fusiform bacilla alone appeared, but on transplanting to blood agar, the spirillae appeared in great numbers. There is really no definite set of cultural characteristics of this organism, as each observer has something new to note. Larson and Barton in 1913 were successful in isolating the organisms from the blood stream, in a case shortly before death.

Vincent's angina is much more common than generally believed. The throat is the most commonly attacked, but it is by no means the only site of the disease. However, the throat is the one the physician in general is most interested in.

Much early knowledge of the organism came from the study of it in connection with the so-

*Read before the State Society of Iowa Medical Women, Des Moines, Iowa, May 6, 1924.

called hospital gangrene, first described by Vincent in 1896, one year before he described the disease of the throat.

In going over the literature, I find Vincent's organism as the cause of the following diseases: (1) hospital gangrene; (2) pelvic peritonitis. Two cases of brain abscess, several industrial wounds, gun-shot wounds (military), bronchial-pneumonia. One case was reported where one man bit another on the finger, the second developed a Vincent's infection which led to an extensive destruction of the finger. A similar case was one of a youngster who had the habit of biting the finger nails, and developed a severe infection in the index finger. Appendicitis and lung abscess has been reported, mentioning Vincent's germ as a causative factor.

Greifswalder clinics has reported four cases of middle ear infection followed by a severe external otitis, caused by the Vincent's germ. This seems to be a universal disease, having been mentioned in Central European literature, India, Japan, Italy and Norway.

The majority of the cases have been in the young adults. We have seen a number of cases in children. Vincent makes the statement that the disease is not found before the teeth are present. Males are affected more commonly than females. This may be the result of there being so many cases among the soldiers.

SEASON VARIATIONS

Reports from Queen Alexandria's Military Hospital, observed the condition, commonest during the winter months. It was observed at Camp Devon Hospital, from April, 1918 to August, 1919, that the increase began in August and gradually rose, remaining stationary during October, November and December, reaching the highest peak in February, followed by a gradual decrease.

The exciting cause is the bacteria which most authorities agree is present in the mouth normally and is pathogenic only under favorable conditions.

(1) Unclean mouth caused by ill-fitting crowns, decayed teeth, recession of the gums. Alveolar abscess, mercurial stomatitis and so forth.

(2) Following dental work—(cleaning and extraction).

(3) Trauma after tonsil operation.

(4) Diminished resistance. 1. Some mentioned the lack of fresh foods such as fruits and vegetables. Others dispute this. 2. Following long illness, or infections.

(5) Fusiform bacillæ have been found in old mouthpieces of pipes, cigarette holders, gas

masks, and other articles coming in contact with the mouth.

I know a youngster two and a half years old, who had been playing with some shells her daddy brought from over seas, and in a few days she developed a severe trench mouth, whether this was the cause or not I do not know.

SYMPTOMS

The patient comes in complaining of a sore throat, pain on swallowing, headache, malaise, backache, slight constitutional disturbances, temperature rarely over one hundred degrees in uncomplicated cases. On examination, one sees either a membrane which is easily removed, and leaves a bleeding surface, or an ulcerative condition. Ninety per cent is in or on the tonsil. Next in order is the mucus fold in the region of the last molar, more frequently on the lower than the upper jaw. The ulceration may extend over the gums about the teeth, and at times is very extensive, cases being on record where the ulceration extends into the large vessels of the neck causing death.

One case I have in mind, was a patient who came in complaining of a sore throat of a week's standing. This throat had all the appearance of a peritonsillar abscess; opened, no pus; opened the second and third day, still no pus, and not softened down. On the fourth day a thick heavy cheesy material exuded from the opening which on examination revealed almost pure Vincent organism. There was practically a complete destruction of the right tonsil, the left not being involved.

Another patient, male, age twenty-nine years, referred by home physician, examined on January 16, 1922, gave a history of sore throat four or five days. Marked difficulty in breathing. On examination a deep abscess was found in the supra tonsillar fossa one and one-fourth inches deep toward the right ear. This was kept open and clean until February the third, tonsils were removed, complete recovery. Another interesting thing about this family is, that one child four years old developed Vincent's angina two months later, and two months after this another youngster two years old developed the same disease. This proves that this is surely an infectious disease, and every precaution should be taken not to spread the same.

Another patient, male, suffered with the disease from the middle of October until the middle of December, and was not completely cured until after the removal of his tonsils on this date.

B. G., Radcliffe, Iowa, age twenty-nine, first examined October 18, 1922. Throat sore one week, left tonsil, severe infection of the gums, advised see a

dentist. The nineteenth, opened abscess on the floor of the mouth, left side, sent to hospital, where he remained until October 27, when he was dismissed cured. On November 16, he returned with tonsillitis, temperature normal, was treated the seventeenth and eighteenth, and noticed edema about the left epiglottic angle. Wassermann negative, culture negative, smear Vincent's. November 19, entered the hospital, and by November 21, the cellulitis and infection was so extensive that a through and through drainage in the floor of the mouth was employed, under general anesthesia. In a few days he was again dismissed. In April, 1923, he again returned with a marked cellulitis below the tongue, in the right sub-maxillary region, which soon subsided, after the use of heat. We last saw him September 1, 1923, with a recurrence of the same trouble, that is, the sub-maxillary swelling, but no bacteria was present.

Many times on examination, at a glance one would pass by a Vincent's infection, but on separating the crypts a large ulcerative area may be exposed in a tonsil, or about a tooth. The diagnosis is comparatively easy now with the bacilli and the spirillae present. It must be differentiated from specific and tuberculosis ulcers, diphtheria and streptococcus exudates. A few authorities report a positive Wassermann in a Vincent's infection, but it has been conclusively proven that a positive Wassermann reaction in Vincent's angina has no foundation and that the two conditions can be differentiated by the application of bacteriological and serological methods, and that when the complement fixation test of Wassermann is positive in cases of Vincent's angina, then a double infection exists, either as a coincident syphilitic and Vincent's infection, or the occurrence of Vincent's in the subject of latent syphilis.¹

A case was reported in March, 1923, by Peter Franz, of a German hospital, in which eosinophilous was as high as 11 per cent, at the height of the disease, and gradually decreased to normal as the disease decreased. He mentioned this as an aid in diagnosis, but he had only the one case report.

TREATMENT

It is important to have the teeth taken care of, if necessary. Clean the ulcers at least twice a day, and use a gargle every half hour, (we use peroxide) 50 per cent. We apply a solution of zinc iodide to the ulceration after cleaning the pocket with peroxide, a 2 per cent solution of chromic acid as well Agno No. 3, has been advocated. Perhaps the most improved treatment of today is the use of salvarsan, as well as other ar-

senic preparations both locally and intravenously. Locally 6 grain of salvarsan dissolved in 2 drams of glycerin. This is supposed to be rather a staple solution.

The parts should be thoroughly cleansed and dried, then the solution applied with a cotton swab, and rubbed into the ulcerated surface. Some clinicians advocate the intravenous administration of the salvarsan, but in view of the fact that this procedure is not entirely devoid of danger, and having in mind the satisfactory results obtained with the local application of the drug, its intravenous use in the treatment of ordinary cases is not recommended. The first case cured by salvarsan, was accomplished by Ehrlich.

Cases of leucemia have been reported in connection with Vincent's. The cause of acute leucemia is as yet unknown, therefore does Vincent's organism have any etiological factor in the disease?

It is generally believed that arsenic properties are specific in the treatment of all forms of spirillum infections.

Prognosis in most cases of Vincent's angina is good.

CONCLUSIONS

- (1) Fusiform and spirochete are one and the same, organism, the spirillum being an evolutionary form.
- (2) It is an infection that is frequently encountered in all cases of membranous sore throat.
- (3) Germs can be isolated.
- (4) Communicated by direct and indirect contact.
- (5) Care for the teeth.
- (6) Specific treatment.

LUMINAL IN THE TREATMENT OF EPILEPSY

GRACE M. SAWYER, M.D., Woodward

First Assistant Physician of Woodward State Hospital for Epileptics and School for Feeble-minded, Woodward

Luminal, as a palliative in the treatment of epilepsy is receiving world-wide recognition. We get our first reports of its use from the Germans who began writing quite extensively about it in 1912-13, giving it a very favorable place as a therapeutic agent, in fact making it almost a specific. Dr. Julius Grinker of Northwestern University, Chicago, was probably the first American to publish his observations on use of the drug.

Luminal was introduced into the United States shortly before the war. But because of diffi-

1. Frank Taylor—University of London, King's College. W. H. McKinstry—Queen Alexandria Military Hospital.

culties in importation during that time there were no definite reports made until some time after the war.

The Woodward State Hospital for Epileptics began the use of luminal in November, 1921, and has been using it continuously up until the present time except for three unavoidable interruptions lasting from one to two weeks, when it was impossible to obtain the drug.

We are treating at the present time approximately 300 cases, which may be classified in the same manner as Dr. Grinker classified his cases, as follows: The Grand Mal type, in which the severe seizure predominates. The Petit Mal type, characterized by the predominance of the mild seizure. The mixed type, in which both severe and mild seizures occur about equally. Psychic epilepsy, epilepsy in the insane, epilepsy in the feeble-minded.

In the treatment of these different types our therapeutic aim is still limited to the prevention of the convulsion, which is the most conspicuous symptom and which stigmatizes the individual as epileptic. In recognizing this as a symptom we are not deluding ourselves into the belief that when there is an arrest of convulsions there has been affected a cure. We do not cure the disease, but we do influence the attacks in a favorable manner, giving the epileptic a more cheerful outlook on life.

It is perhaps well to review the physical properties and action and uses of luminal, which, no doubt, you all know about in a general way.

Luminal, whose chemical name is phenobarbital or phenyl-ethyl-barbituric acid, occurs in tablets $1\frac{1}{2}$ grains, and in the form of a white, odorless and slightly bitter powder. It is almost insoluble in cold water, slightly soluble in hot water, soluble in alcohol, ether and chloroform, and in alkaline solution.

There is a soluble preparation of luminal, luminal sodium, which is phenobarbital sodium. This preparation is principally used for hypodermic injection in the form of a 20 per cent solution prepared by dissolving the salt in boiled and cooled distilled water. The dose of luminal sodium is 10 per cent greater than that of luminal.

The drug was first recommended as a hypnotic and substitute for barbitol or veronal, whose formula differs from the latter in the fact that one phenyl group displaces one ethyl group, and it is claimed that this change increases the hypnotic power of luminal over that of barbitol. The dose of luminal as a hypnotic is from 3 to 5 grains, increased if necessary to 12 grains.

Our method of the administration of luminal

is in tablet form of $1\frac{1}{2}$ grains once a day, usually in the evening. This is for adults. For children we give one-half tablet or three-quarter grain once daily. In some few cases it has been necessary to give a heavier dosage, so they are given a morning and evening dose of $1\frac{1}{2}$ grains each.

Our aim is to keep the dosage as low as possible and at the same time keep the patient free from the attacks. The treatment must be continued systematically for years. Frequent or protracted interruptions are apt to be followed by a return of severe attacks.

We have found no contraindications to the use of luminal nor have we had any harmful effects from its administration. We have had one patient who developed an exanthematous rash resembling measles a couple of times. We have not observed any renal or cardiovascular conditions resulting from luminal.

This drug is not habit forming. Besides the beneficial influence luminal has on both the number and character of the seizures, it has a definite clearing and toning up action on the mentality which is surprising. There is marked freedom from that stupidity and torpor accompanying the continued use of bromids.

AMERICAN LIBRARY ASSOCIATION

Older members of the medical profession both in Europe and America remember Dr. John Shaw Billings as an international figure who distinguished himself not only as an authority on sanitation and hospital planning but as a medical bibliographer and librarian.

Mr. H. M. Lydenberg in his biography of Dr. Billings (issued in July) recalls how "in appreciation of his services to medicine and medical bibliography, a silver box was presented him, containing a check for \$10,000 as a testimonial from 259 American and British physicians."

The biography of John Shaw Billings, published by the American Library Association, Chicago, is written from the librarians' point of view but in full appreciation of how much medical science is indebted to this truly remarkable person.

The format is in keeping with the dignity and charm of the whole work. The book is published in a limited, numbered edition. (\$2.50.)

The publications of the American Library Association are issued not for profit but in the interest of library development and education. The biography of John Shaw Billings is the first of a series of "American Library Pioneers."

Yours very truly,

CARL H. MILAM,

Sec'y, American Library Ass'n.

86 E. Randolph St., Chicago, Ill.

The Journal of the Iowa State Medical Society

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FURTHER ACTIVITIES OF THE JOURNAL OFFICE

In the September Journal attention was called to the action of the House of Delegates in extending the activities of the Secretary's office. Under this direction the board of trustees appointed Mr. C. G. Throckmorton as an assistant to the Secretary. In the September Journal we pointed out one of the features which may be regarded as fundamental, that is, a closer organization of the units of the State Medical Society. We suggested a new medical survey of the state with a view of ascertaining the needs of local societies.

First, the advisability of merging two or more county societies under a hyphenated name, in the smaller counties, reserving to each county the privilege of sending a delegate, so that a hyphenated society may send as many delegates as it has counties in the merger. Provided, no two delegates shall be elected from the same county, except under the constitutional provision of one for fifty or major fraction of members from any one society.

District societies may be organized to take the place of merged county societies, but some confusion might arise from representation. These are some of the questions which should be considered in the survey and worked out by the secretary, his assistant and councilors.

The Secretary's office offers to act as an agent in establishing a relationship between members of the State Medical Society and the advertisers in the Journal. The advertising policy of the Jour-

nal, as is well known, is to decline all questionable advertising, all that has not been carefully scrutinized by competent authority, therefore there is no fundamental difficulty to start with.

The advertising pages of a medical journal are not alone for the purpose of offering in the market what some commercial house has for sale, or to enable a physician to ascertain where he may purchase the thing needed, but in modern times the advertising pages are educational in character. Witness the exhibits at the larger medical societies, the great display of scientific instruments and apparatus under the direction of trained men. Many physicians spend a considerable portion of their time in the exhibits.

Every physician finds his mail heavily loaded with skillfully written advertisements of every kind and description, often misleading, and he may fall into confusion in an attempt to determine what he should purchase. To overcome some of this confusion he may appeal to the Secretary's office for advice, and if the information is not at hand, it will be secured promptly. So as to establish a medium between the would-be purchaser and the commercial house, take up the matter with the Journal office. We have found that reliable houses cooperate in such matters. This is not a purely commercial proposition, but a scientific and efficiency proposition.

Again, there is the State Medical Library under the efficient direction and management of Miss Van Zant, who will cheerfully aid any physician in securing books, journals and reprints on every subject he may desire, for private reading or in the preparation of medical papers. Some 7,000 volumes and the leading journals from all nations are constantly at hand. Miss Van Zant has established such relations with all the great libraries of the country that she will be able in a short time to furnish books, journals and references not already in the library.

Some years ago Judge Deamer of the Iowa Supreme Court, Johnson Brigham, State Librarian, with a group of physicians who felt the need of a great medical library for the use of Iowa physicians, finally induced the Iowa Legislature to make suitable appropriations for such a library, which has grown with encouraging rapidity and we trust with helpful efficiency.

One more suggestion we have at this time to offer. It is readily understood that there are many legal problems that grow up in the practice of medicine, not only malpractice suits, but problems of other kinds, closely related to practice, where advice and opinions may be helpful. We hope it may be fairly said that the medico-legal service of the State Medical Society has become

so organized that through the committee and our chief attorney, Mr. C. M. Dutcher, many questions may be safely referred. We are not practicing law, but as we interpret our function, it is to aid the profession in many ways to make the practice of medicine as safe and agreeable as possible.

No additional fees are contemplated in these offers, only to make the Journal office as valuable as possible to the medical profession. We have grown into these things, which are now made possible, by the action of the House of Delegates in furnishing the services of C. G. Throckmorton. We must in this connection invite the aid and cooperation of the councilors.

NON-DIABETIC GLYCOSURIA

At the present time when the routine chemical analysis of the urine is well nigh a universal practice among physicians, it may be profitable to recall the non-diabetic conditions in which sugar appears in the urine.

Hyperglycemia and glycosuria may be due to ingestion and assimilation of too much glucose. A normal person should be able to handle 100 grams of 40 per cent glucose without showing sugar, but an alimentary glycosuria may appear if as much as 250 grams or more of glucose are taken at any one time. Increased blood sugar and sugar in the urine may also be caused by a hyperglycogenolysis, i. e., the too rapid conversion of glycogen stored in the liver into glucose. This may be due to nervous stimulation of the liver as for instance when the medulla oblongata is punctured, or when pressure is exerted upon the base of the brain as a result of skull fracture, tumors, etc. It may also be brought about by emotional disturbances, thus sugar is often found in students taking examinations, and in hysterical patients. The glycosuria at times found in hyperthyroidism may also be of this type. Again, sugar may appear in the urine after the injection of adrenalin. Glycosuria and hyperglycemia are also seen at times in cases of asphyxia due to carbon-monoxide poisoning, and, to a certain extent, to the action of other anesthetics. It may further be due to toxic factors as morphine, or the toxins of microorganisms.

There exists another group of conditions in which the blood sugar remains normal and yet sugar appears in the urine. The most common of these is the lactosuria found, at times, during gestation and lactation. Differentiation from glucose may be made by means of the fermentation tube, since lactose is not fermented by yeast. It has now become evident that the so-called renal

diabetes, or better, renal glycosuria, is not an uncommon disease. This condition is due to the lack of reabsorption of the sugar present in the glomerular filtrate by the convoluted tubules of the kidney. The condition is apparently harmless, the blood sugar is always normal, and diet has no influence on the urinary sugar.

Glomset.

SANTO TOMAS HOSPITAL, PANAMA CITY

On September 1, 1924, the new Santo Tomas Hospital was dedicated with appropriate ceremonies.

It will be remembered that Panama City has a population of about 60,000 inhabitants. Since the opening of the Panama Canal, Panama City has become a center of much importance on account of a large part of the ocean commerce of the world passing its door. It has also become an interesting country for the tourist to visit, not altogether because of the wonderful canal and the great commercial interests of the world, but because of the people of whom we knew little until recent years.

In 1832 the old Santo Tomas Hospital was built, with a capacity of 500 or 600 beds. Under the skillful direction of Major Edward A. Bock and the generous and intelligent cooperation of President Belisario Porras, in spite of inadequate buildings, Santo Tomas became one of the best organized hospitals it has been the pleasure of the writer to visit. Recognizing the importance of better buildings and a better location, President Porras secured the construction of the new Santo Tomas Hospital at a cost of \$2,500,000, located in a great open space just outside the city, offering to the patient a most delightful prospect, as in the words of President Porras: "At night the patient will look out across the bay upon the beautiful panorama of the lighted city casting its reflections upon the water. Cool zephyrs will fan them to sleep and at dawn they will awaken to the soothing sounds of the gentle waves. Looking out across the bay with its beautiful overhanging clouds, they will see vessels bringing from the interior of our country the produce of its soil, to be placed in the market."

Major Bock, a medical officer of the United States Army, who directed the construction of the hospital, delivered an interesting address on the occasion of the dedication of the hospital, closed with the following observations:

"And now, Mr. Secretary of Public Works, as representative of the Building Commission, I have the honor to officially deliver to you Santo Tomas Hospital, an institution whose buildings

completely completed, equipment installed, and professional staff trained and organized, today commences its full activities."

It will be remembered that on February 18, 1923, the cornerstone of the Gorgas Memorial was laid with appropriate ceremonies in the presence of a delegation of American College of Surgeons, on which occasion President Porras delivered an eloquent address, showing his sympathy and cooperation with things medical.

The Iowa State Medical Society exists as an organized body because the active and influential physicians, in their respective communities, are members of it.

To be as efficient as it can be it needs the cooperation of every physician in the state.

The State Society functions in two ways. One, in meeting as a body which presents to the physicians the papers and discussions which stimulate improvement in the scientific work of the practice of medicine.

The other, and of equal or even greater importance, the House of Delegates which is earnestly striving to study and solve some of the problems which the profession, as a body, has to meet.

These problems have to do with medical practice acts, public hygiene, the fiscal conduct of the Society, the relations of our Society to the National organization, etc.

This House of Delegates is always composed of delegates who are elected by the component county societies. It cannot act intelligently on the questions before it unless the men who are chosen, by the county societies, are selected with care and with due regard to the intention of their delegate to not only attend the State Society but to take time and care to inform themselves on the problems which are to be considered in the House of Delegates.

The proceedings of the House are published, in detail, in the Journal of the State Society. These proceedings are read according of the interest of the members of the Society, each of whom receives a copy of the Journal.

The officers and trustees, this year are very anxious to secure a full consideration of all the problems of the Society. To this end it is requested that any delegate who desires to inform himself in regard to these problems, shall read, carefully, the minutes of the House as published in the Journal and then if not clear as to the facts shall address a letter to the officers of the State Society and so far as possible he will receive full information.

The House should be the carefully reflected

thought of the men of the county societies. Reflection before the meeting will prevent the introduction of irrelevant matter and will bring to the conclusions of the House a unified sentiment of the great mass of men throughout the state.

Select delegates who will attend, who will inform themselves, and who will carefully think of the problems.

FRANK H. FULLER, *President*.

NATIONAL BOARD OF MEDICAL EXAMINERS

The National Board of Medical Examiners of which Major-General Merritte W. Ireland, surgeon-general of the army, is president, was organized in 1915 to establish a standard qualifying examination of such character that its certificate of qualifications to practice medicine would be accepted by medical licensing boards in all states, and the holder of this certificate be granted a license to practice without further examination. To date, its certificate is accepted by twenty-eight states, and by some foreign countries. The states which now accept the certificate are: Alabama, Arizona, Colorado, Delaware, Georgia, Idaho, Illinois, Iowa, Kentucky, Maine, Massachusetts, Maryland, Minnesota, Mississippi, Nebraska, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Vermont, Virginia, and Washington. Several others will accept it as soon as legal obstacles can be removed.

In Great Britain the certificate is accepted by the Conjoint Examining Board of the Royal College of Physicians of London, and the Royal College of Surgeons of England, and by the Board of the Royal Faculty of Physicians and Surgeons of Glasgow.

The board aims not only to safeguard and simplify the determination of those who are qualified to practice medicine, but to aid the medical colleges and the various state authorities in promoting high standards of medical education and practice. The boards' examination which is divided into three parts to be taken at intervals extended over a three year period, together with its plan of identification and the limiting of its candidates to students from class A schools, makes it impossible for unqualified candidates to secure its certificate and it is therefore a help to state boards in keeping out unqualified practitioners.

The board was founded by the late Dr. W. L. Rodman of Philadelphia, whose son, Dr. J. S. Rodman is now secretary of the board. The late Major-General William C. Gorgas, M.D., was a charter member of the board, and rear admiral W. C. Braisted was its first president, serving until he retired from the medical corps of the navy in 1921.

Besides Major-General Ireland, the present president, the other members of the board are: Dr.

Horace D. Arnold of Boston, Massachusetts; Dr. Walter L. Bierring of Des Moines, Iowa; Dr. John G. Bowman of Pittsburgh, Pennsylvania; Dr. Lewis A. Conner of New York; surgeon-general Hugh S. Cumming of Washington, D. C.; Dr. A. C. Eycleshymer of Chicago, Illinois; Dr. J. M. T. Finney of Baltimore, Maryland; Dr. Walter E. Garrey of New Orleans, Louisiana; Dr. Allen B. Kanavel of Chicago, Illinois; Dr. H. T. Karsner, Cleveland, Ohio; Dr. W. S. Leathers of Jackson, Mississippi; surgeon George W. McCoy of Washington, D. C.; commander C. M. Oman of Washington, D. C.; Dr. Eugene L. Opie of Philadelphia; Dr. O. H. Perry Pepper of Philadelphia; Lieut.-Col. J. F. Siler of Washington, D. C.; Rear Admiral E. R. Stitt of Washington, D. C.; Dr. David A. Strickler of Denver, Colorado; Dr. W. E. Studdiford of New York, and Dr. J. Whitridge Williams of Baltimore, Maryland.

Dear Doctor:

The reunion of the Keokuk Alumni of the State University of Iowa, was held in Iowa City on June 2, 1924, at Hotel Jefferson. The meeting was called to order by Dr. B. S. Pennington, president of the class of 1891 as ordered two years ago. The address of welcome was given by Dr. C. E. Ruth of Des Moines. Response by Dr. C. E. Chittum, class 1897, Wapello, Iowa. Those present formed a permanent organization of the Alumni of the Keokuk, Iowa, P. & S., K. M. C., and K. M. C. and P. & S. It was decided to meet again in Iowa City in June, 1925. The officers elected were: President, J. M. Auld, class 1880, 5 South Wabash avenue, Chicago, Illinois; vice-president, John F. Herrick, class 1891, Ottumwa, Iowa; secretary-treasurer, H. C. Young, class 1891, Bloomfield, Iowa. Letters from absent members were then read. Roll call by secretary and short talks by the following: J. M. Auld, class 1880, Chicago, Illinois; C. C. C. Heady, class 1889, Bloomfield, Iowa; John T. Herrick, class 1891, Ottumwa, Iowa; Wm. Hendricks, class 1891, Chicago, Illinois; C. D. Fellows, class 1892, Algona, Iowa; F. F. Winsell, class 1895, Marengo, Iowa; Sam B. Peacock, class 1896, Pittsfield, Illinois; H. B. Melaik, class 1897, Kewanee, Illinois; C. R. Russell, class 1898, Keosauqua, Iowa; B. S. Walker, class 1900, Corydon, Iowa; L. M. Dickson, class 1903, Arapahoe, Colorado; W. L. Alcorn, class 1904, Ainsworth, Iowa; A. H. Foster, class 1905, Erie, Illinois; F. H. Dierker, class 1906, West Point, Iowa; John B. Dierker, class 1907, Lawrence, Nebraska, and Ralph Selman, class 1908, Blakesburg, Iowa. The afternoon was spent in visiting the university and hospitals and seeing the city. Banquet at Youde's at 6:30. After a splendid dinner, Dr. C. E. Ruth, toastmaster, introduced President Jessup of S. U. I., who welcomed us to Alma Mater and gave us its history in growth. Address by Dr. C. S. Chase, Iowa City. Response by Dr. Hubbard, West Liberty. A very interesting and instructive talk by Dr. Jeannette Throckmorton, Des Moines. Talks by Dr. Wm. Hendricks, Chicago; Dr. Frank

Fuller, president of State Medical Society, Keokuk; Mrs. H. C. Young, Bloomfield.

Those present: Professors—Dr. C. E. Ruth, Dr. Frank Fuller, Dr. R. M. Lapsley, Dr. C. R. Armentrout, all of Keokuk, Iowa. Students: J. M. Auld, '80, 5 South Wabash avenue, Chicago, Illinois; C. C. C. Heady, '89, Bloomfield, Iowa; R. M. Lopsley, '90, Keokuk, Iowa; A. J. Blickham, '91, Quincy, Illinois; Otis Cobb, '91, Lovella, Iowa; B. G. Calligen, '91, Luray, Missouri; John W. Herrick, '91, Ottumwa, Iowa; Wm. Hendrick, '91, 6144 Bishop street, Chicago, Illinois; F. J. Ladd, '91, Cedar Rapids, Iowa; C. D. Pitts, '91, Martensdale, Iowa; R. M. Pennington, '91, Hoisengton, Kansas; H. C. Young, '91, Bloomfield, Iowa; C. D. Fellows, '92, Algona, Iowa; L. Newton, '94, Ft. Madison, Iowa; W. J. Herrick, '95, Ottumwa, Iowa; F. F. Winsell, '95, Marengo, Iowa; H. J. Gilfillen, '96, Milton, Iowa; Frank J. Fuller, '97, Keokuk, Iowa; H. C. Payne, '97, Pella, Iowa; G. I. Armatage, '97, Murray, Iowa; H. C. Chittum, '97, Wapello, Iowa; H. B. Melaik, '97, Kewanee, Illinois; C. R. Russell, '98, Keosauqua, Iowa; G. P. Moren, '98, Kewanee, Illinois; B. S. Walker, 1900, Corydon, Iowa; H. A. Gray, 1900, Keokuk, Iowa; H. W. Canfield, '03, Baxter, Iowa; L. M. Dixon, '03, Arapaho, Colorado; L. M. Alcon, '04, Ainsworth, Iowa; C. R. Armentrout, '04, Keokuk, Iowa; A. H. Foster, '05, Erie, Illinois; Jeannette Throckmorton, '07, Des Moines, Iowa; Ralph Selman, '08, Blakesburg, Iowa; H. C. Yates, '08, Mt. Vernon, Iowa. Several more were present that I failed to get the names. Any one who remembers, please send names to secretary.

Those writing me who did not attend—James Morris Ball, 4500 Oliver street, St. Louis, Missouri; W. M. Robinson, '70, Denver, Colorado; O. W. Lowery, '73, Des Moines, Iowa; T. A. Bryant, '76, Hedrick, South Dakota; J. J. Selman, '78, Blakesburg, Iowa; R. S. Dinsmon, '78, Troy, Kansas; E. E. Liggett, '84, Oswego, Kansas; J. W. Bowling, '87, Swaneetown, Illinois; J. T. Lloyd, '91, Baldwin, Illinois; L. E. Vermillion, '91, Lyons, Kansas; J. W. Smith, '91, Bloomington, Illinois; W. K. Githens, '91, Quincy, Illinois; J. D. Chittum, '91, Sorento, Illinois; Clara Kimble Cronk, '92, Bloomfield, Iowa; Ellen Miner, '93, Champaign, Illinois; J. M. Thomber, '95, Carthage, Illinois; G. S. Gregory, '96, Findley, Illinois; A. T. Botts, '97, Decatur, Illinois; R. B. Toben, '97, Bloomfield, Iowa; J. B. Murphy, '98, Cedar Rapids, Iowa; G. Giles, '98, Bloomfield, Iowa; T. J. Fielding, Milwaukee avenue and Paulina street, Chicago, Illinois; W. M. Giles, '98, Watagott, Illinois; W. E. Davidson, '98, Liberty, Illinois; E. G. Myrick, '01, Fairfield, Iowa; E. R. Newland, '04, Drakesville, Iowa; C. A. Thoams, '04, Coffeyville, Kansas; J. A. Cousins, '05, 14 E. Jackson boulevard, Chicago, Illinois; L. E. Frasier, '05, Bradford, Iowa; C. H. Cronk, '05, Bloomfield, Iowa; J. Hennessy, '06, Emmetsburg, Iowa; F. C. Smith, Palo Alto, California, U. S. Veteran Hospital No. 24.

Fifteen of the alumni took advantage of the certificate of adoption by the university while there. Any

one who desires this certificate, send \$5 to H. C. Dorcas, S. U. I. registrar, Iowa City.

All those present agreed to send list of graduates, their addresses and class. If this is done we can reach more alumni than we did this year.

Any one who did not contribute one dollar for advertising expense, can do so.

H. C. Young, Sec'y-Treas., Bloomfield, Ia.,
Dr. J. M. Auld, Chicago, Ill.

U. S. VETERANS BUREAU

Owing to the fact that various interpretations have been placed on the method by which the World War veteran can compute the amount of his paid up twenty-year endowment insurance, purchased by the adjusted service credit under the provisions of the adjusted compensation act, General Frank T. Hines, director of the United States Veterans Bureau, has released a statement of factors and instructions which will clarify this situation.

The director called attention to the fact that the 25 per cent increase to be added to the adjusted service credit before applying as a net single premium to purchase the endowment insurance as called for by the act, has already been incorporated in the factor and should not be added to the adjusted service credit before multiplying by the factor. The table of factors and instructions follow:

Factors to Determine the Amount of Paid-up 20-Year Endowment Insurance Purchased by the Adjusted Service Credit, as Defined in Section 201 of the Act

Age	Factor	Age	Factor
20	2.545	43	2.439
21	2.544	44	2.426
22	2.542	45	2.413
23	2.540	46	2.398
24	2.539	47	2.391
25	2.537	48	2.364
26	2.535	49	2.345
27	2.532	50	2.324
28	2.530	51	2.302
29	2.527	52	2.279
30	2.524	53	2.254
31	2.521	54	2.228
32	2.517	55	2.201
33	2.513	56	2.172
34	2.509	57	2.143
35	2.504	58	2.113
36	2.498	59	2.082
37	2.492	60	2.050
38	2.485	61	2.018
39	2.478	62	1.986
40	2.470	63	1.954
41	2.460	64	1.921
42	2.450	65	1.889

Instructions—Allow \$1 per day for each day of home service and \$1.25 per day for each day of foreign service. Deduct \$60 from this sum. Multiply this remainder by the factor opposite the age nearest

birthday to date certificate is issued. The factor includes the 25 per cent increase and this increase should not be added to the adjusted service credit before multiplying by the factor.

Example:

Age at date of issue.....	33 years
Home service.....	180 days
Overseas service.....	100 days
(180-60) x \$1.00 =	\$120
100 x \$1.25 =	125
	\$245 —Adjusted Service Credit
x 2.513—Factor at Age 33	
	\$615 —Adjusted Ser. Certificate

THE PREVENTION AND RELIEF OF HEART DISEASE IN DES MOINES

A committee of local physicians has recently been selected by the executive committee of the American Heart Association for the purpose of developing the work of prevention and relief of heart disease in Des Moines and Iowa. The committee consists of the following: Drs. Walter L. Bierring, A. C. Page, John H. Peck, John Russell and Merrill M. Myers.

The American Heart Association was organized in June of this year in Chicago, but a nation wide movement for the study and prevention of heart disease had its beginning in 1915 when the New York Association for the Prevention and Relief of Heart Disease was formed. This was the outgrowth of the work for the handicapped workers whose heart could not keep pace with their courage or their need of self support, indicating the need of this new prevention and relief service. Since then five other cities, Boston, Philadelphia, Indianapolis, Chicago, and San Antonio, have established heart associations sponsored and directed by leading members of the medical profession and prominent citizens. In order to better co-ordinate this national movement, the American Heart Association was organized. The officers and directors of this association are among the leading physicians of the country.

This organization is similar to the National Association for the Study and Prevention of Tuberculosis, in that its membership is not limited to physicians. Prominent laymen are invited to affiliate themselves with this important work.

During the past five years a heart clinic has been established in connection with the Des Moines Health Center, being at present in charge of Drs. Myers and Russell, carrying on its work in affiliation with the New York Association. This clinic has collected some very valuable information in regard to the prevalence of heart disease in this community.

The Des Moines committee will exert its activities toward extending the usefulness of the heart clinic, so that industrial concerns, the school population, and the entire community will receive the benefits of this service.

A further purpose of the committee will be to aid in the organization of a Des Moines Heart Associa-

tion, in which it is hoped that all leading citizens will be interested, and in that spirit affiliate with this worthy movement.

MEDICAL NEWS NOTES

Marquette University will take an important step in medical education October 1, when the Marquette Hospital College will be started, with an enrollment that will include students from many parts of the United States and Canada.

The new college will offer training for hospital executives, technicians, dietitians, social workers, and other hospital specialists. The college work will lead to a bachelor's degree, the school for technicians will lead to a certificate or diploma of efficiency, and graduate work will entitle the student to the master of arts degree.

The general outline of the schools are those suggested by the committee on hospital education of the Rockefeller Foundation. Through its president, the Rev. C. B. Moulinier, S. J., the Catholic Hospital Association of the United States and Canada took an active part in these discussions, and, at the request and suggestion of the executive board of the Catholic Hospital Association, Marquette University is now taking the first step in starting a hospital college.

Dr. H. C. Hansen of Eagle Grove, Iowa, now at Leavenworth federal prison for violating the Harrison drug act, was disbarred from medical practice in Iowa by the state board of health, following a hearing held at the board's office.

According to evidence introduced at the hearing, Dr. Hansen had been twice convicted under the federal drug laws, the first time in 1922, when he was fined, and again last June, when he was sentenced to Leavenworth for a year and a day. Evidence was also brought in that some years ago the physician had been a patient at the old state hospital for inebriates at Knoxville, where he was given treatment for the drug habit.

The move to revoke Dr. Hansen's license was initiated by the medical society of Wright county. J. W. Henneberry of Eagle Grove, his attorney, pleaded with the board to postpone action until after Dr. Hansen was released from the federal penitentiary, as he had been unable to build up a proper defense for his client because of his confinement in prison.

First Assistant Attorney General John Fletcher conducted the hearing for the board of health.

What's the Matter with the County Society?

Now and again—with increasing frequency of late—there comes notification of the organization of an independent medical society, a physicians' "club," or of the creation of some sort of association of physicians already members of a county medical society. The announcement of one of these, recently organized, stated: "The idea primarily guiding the

establishment of such an organization is one which aims at developing greater social intercommunication and better human relationship among members of the profession." What's the matter with the county medical society in that bailiwick?

Another independent organization announced its birth into this overorganized world with a statement to the effect that it was intended to bring about a better understanding among members of the profession in its community with respect to their social and professional privileges and obligations, and to create firmer friendships and more constant and effective general cooperation between its members; but more particularly to give better opportunity for them to help each other to become better qualified as practicing physicians. What's the matter with the county society in that bailiwick?

What is it that these purely local medical groups can do that the county society cannot do? Just what is the matter with the county society within whose jurisdiction independent organization is being effected by its own members? It may be that a careful investigation into the situation by its officers will discover something wrong and that a little careful study will result in correction, to the end that the need for new nonaffiliated organizations will quickly disappear. Incidentally, the district councilor might help some.—Association Bulletin.

An unique medical convention of which every member is of the same family, met at Orange City recently; Dr. Jeanette Joorgewaard, Kansas City; Dr. Wilhelmina Joorgewaard, India; Dr. Irvin Johns, Ames; Dr. Mack Winter, Miles City, Montana; Dr. Henry Joorgewaard, Chicago; Dr. Lawrence Joorgewaard, who is to be a doctor, and Dr. John Veldman, Des Moines. There was one who could not be present, Dr. Bert Joorgewaard, who is a medical missionary in India. There was besides Miss Harriet Joorgewaard, a missionary in India, and Miss Esther Joorgewaard, a nurse in Chicago. It would be difficult to find a more useful family, all occupying places of honor and responsibility.

The father, John A. Joorgewaard, has been county recorder of Sioux County for the past twenty years. In addition to these mentioned, were the families. We are not sure we have the names arranged quite right, but that is not material, as all belong to the same family, which came together in honor of Dr. Wilhelmina, a medical missionary, and Miss Harriet, a missionary to India.

HOSPITAL NOTES

Mother Xavier was born in New York City in 1852. With Mother Phillomena, who died two years ago, and a small band of nuns, including Sisters Baptist, Elizabeth and Scholastica, she came to Des Moines from Davenport thirty years ago and opened up a hospital at Hoyt Sherman place with fifteen beds.

"Through soliciting funds, hard work and much enthusiasm, the group built the first wing of the pres-

ent Mercy Hospital in 1895," the second wing of the hospital was built in 1897 and the west wing in 1908. The management and work of the hospital was supervised by Mothers Xavier and Phillomena until their death.

Mother Xavier celebrated her forty-ninth year in the convent on September 2 of this year and was looking forward to a golden jubilee the coming year.

SOCIETY PROCEEDINGS

Adair, Calhoun, Pocahontas and Worth One Hundred Per Cent County Medical Societies

The field secretary offers the following observations in relation to the societies:

The state secretary has had the privilege of helping several county societies secure men for their scientific programs in the past two months and will be glad to assist other county societies in the same way if they will make their wants known to this office.

Be sure to read about the service department in this month's Journal, and then make use of it.

The president of the State Society, Dr. Frank M. Fuller, Keokuk, was asked some time ago to be present at a meeting of one of the county societies. Two days before the date of the meeting, he discovered—quite by accident—that the meeting had been called off. Over two days time would have been lost and for no avail, had not the doctor by intuition ascertained that the meeting had been postponed. The president now requests that a county society desiring his presence at one of their meetings make such arrangements through the office of the state secretary.

The State Society officers are taking an active part in arousing and stimulating interest on the part of members in their respective county societies.

At the meeting in Manchester, Dr. Frank Fuller, president, Dr. W. B. Small, trustee, Dr. A. G. Shellito, councilor, and Dr. Tom B. Throckmorton, secretary, were present.

At the meeting in Mount Ayr, Dr. Frank Fuller, president, Dr. J. W. Cokenower, chairman of the board of trustees, and Dr. F. A. Bowman, councilor, were present.

These meetings were well attended and the doctors were full of enthusiasm over the future outlook.

Plans are now under way to hold several more meetings in the near future at which the state officers will be present.

If your county society is lagging behind and you want to catch up again, the office of the state secretary will be glad to help you out. What are your problems and how can we help you solve them?

Cass County Medical Society

The Cass County Medical Society held its annual general meeting Wednesday evening, October 15, at Anita. There were present fifteen doctors, their wives and lady friends. An attractive banqueting

table was arranged by the Pythian Sisters in the large K. of P. lodge room. It was arranged in the form of a square, with flowers in the vacant center space and at either corner, thus two end and two side tables faced each other. There were thirty people seated around these tables. A dainty three course dinner was faultlessly served. Special music was provided in one corner of the room. After the dinner was ended, Rev. Spooner of the Congregational church, Atlantic and who was accompanied by Mrs. Spooner, gave an eloquent after-dinner talk. Rev. Spooner proved that he could be master of the situation as an after dinner speaker to the doctors, as well as in the pulpit.

The following doctors and ladies were present: Dr. and Mrs. Clark, Dr. and Mrs. Greenleaf, Dr. and Mrs. F. J. Becker, Miss Thompson, a nurse, Dr. and Mrs. Barnett, Dr. and Mrs. R. A. Becker, Dr. and Mrs. Graham, Dr. Weber, Dr. Johnson, Atlantic; Dr. Stultz, Wiota; Dr. and Mrs. Anderson, Cumberland; Dr. and Mrs. Maynard, Dr. Hartze, Adair; Dr. and Mrs. H. E. Campbell, Mrs. Adair, Dr. Beaver, Anita.

After dinner the visiting ladies were entertained by Mrs. (Dr.) H. E. Campbell of Anita.

The following medical program was rendered: The Gall Bladder, Dr. H. A. Johnson, Atlantic. Some Syphilitics I Have Met, Dr. James Maynard, Adair.

These papers were discussed by practically all of the doctors present.

The meeting was voted as being a success in every particular and a motion was made and carried that each doctor of the society be assessed two dollars annually to create a fund for financing similar meetings.

Dr. M. F. Stults, Sec'y,
Dr. C. G. Clark, Pres.

Clayton County Medical Society

The Clayton County Medical Society met at the court house in Elkader, September 22, 1924.

Papers were presented by Doctors McGrath of Elkader; Bronson of Monona and Cahill of Volga.

Members present: Doctors Hanson and Gray, Edgewood; Doctors McGrath, Hommel, Strong and Patterson of Elkader; Doctor Kriebs, Elkport; Doctor Hudek, Garnavillo; Doctor Beyer, Guttenberg; Doctors Clark and Meggers, McGregor; Doctors Bronson and Everall, Monona; Doctors Ainsworth and Cahill, Volga.

Delaware County Medical Society

The Delaware County Medical Society met at the Carnegie Library in Manchester, September 2. After a six o'clock dinner at the Coffee Den, addresses were given by Dr. F. H. Fuller of Keokuk, Dr. J. W. Cokenower, Des Moines; Children's Diseases by Dr. Fred Moore, Des Moines; Diseases of the Heart, Dr. M. H. Meyers, Des Moines; Medicine, Dr. Julius Weingart, Des Moines; Surgery, Dr. J. C. Rockafellow, Des Moines; a Children's Clinic under the direction of the County Medical Society.

Fayette County Medical Society

The Fayette County Medical Society met at Oelwein on July 1, 1924, where they were the guests of the Oelwein physicians, to a banquet followed by two excellent papers and pictures.

Tuberculosis of the Kidney, J. H. Butts, M.D., Waterloo.

Breech Presentations, with moving pictures, Dr. Rotton, department of obstetrics, University of Iowa.

Five films of the Wertheim Lowry series furnished by Oelwein physicians.

New officers: C. D. Bothwell, M.D., Oelwein, president; T. A. King, M.D., West Union, vice-president; C. C. Hall, M.D., Maynard, secretary and treasurer.

The September meeting of the Fayette County Medical Society was held on Tuesday evening, September 16, 1924, at Arlington where we were the guests of Drs. Hazard and Sauerby, to a banquet and excellent program.

Address on Cardiac Failure and Its Treatment, Verne C. Graber, department of internal medicine, University of Iowa.

Report of committee and plans for a county credit association. C. C. Hall, Sec'y.

Harlan County Medical Society

The Harlan County Medical Society in conjunction with the Audubon County Medical Society held a meeting September 22, at the Field Club in Harlan.

Dr. Donald Macrae and Dr. Pixby of Council Bluffs, demonstrated by moving pictures several operations. Dr. Karl Werndorf read a paper on Diseases of the Spine. Dr. O'Keefe presented an informal discussion.

Linn County Medical Society

Linn County Medical Society met at the Hotel Montrose, September 11, 1924.

Dr. R. E. Farr of Minneapolis read a paper on Major Operations Under Local Anesthesia, illustrated by moving pictures.

Dr. P. C. Jeans of the department of pediatrics, Iowa State University, outlined the work being done at the Children's Hospital. About one hundred physicians were in attendance. (Dr. Farr's paper will soon appear in the Journal.)

Linn County Medical Society

The Linn County Medical Society met at Hotel Montrose, Cedar Rapids, Iowa, Thursday, October 9, at which time we had the honor of hearing Dr. Charles Spencer Williamson, professor of medicine, University of Illinois, address us on The Management of the Commoner Forms of Heart Disease. Among the important points brought out were, that the earliest symptom of beginning heart failure was weakness of nerve and muscle tissues or fatigue, next shortness of breath on slight exertion, then edema.

In the treatment he places bed rest first, a course of digitalis until effects are produced, that is nausea, purging or slow pulse. He advised against the use of saline cathartics, uses narcotics when necessary, a very light diet, and against the use of quinidine.

Dr. A. Steindler of Iowa City also gave a lantern demonstration of operative procedure used to correct the deformities due to scars following severe burns. A buffet luncheon was served following the program which was attended by nineteen visitors outside of Linn county. B. L. Knight, Sec'y.

Mitchell County Medical Society

The Mitchell County Medical Society with invited guests from surrounding counties met in St. Ansgar, Thursday evening, September 25. The following program was given: Treatment of Malig-nancies by X-ray and Surgical Diathermy, illustrated with lantern slides, Dr. A. L. Yocum, Jr., Chariton. Dr. Orrin W. Wyatt, Manning, gave a talk, illustrated with lantern slides, on a Technic for the Removal of Tonsils by Surgical Diathermy. The paper was accompanied by a demonstration of his method. A lively discussion followed the presentation of these interesting papers. After the scientific program Dr. Osborn entertained the members and their guests at luncheon.

Thirty doctors were present from the following towns: Charles City, Mason City, Osage, Rudd, Decorah, Northwood, Stacyville, Riceville and St. Ansgar. Guy A. Lott, Sec'y.

Polk County Medical Society

The Polk County Medical Society met at the Hotel Fort Des Moines, Tuesday evening, September 30. Dr. M. T. Turner, president, in the chair. Dr. T. R. Meredith, secretary.

Two papers constituted the scientific program of the evening. Dr. C. P. Cook read an important paper on the Relation of Focal Infections to General Diseases, in which the subject of focal infection as a causation factor in the sickness of children was brought out in considerable detail. Dr. Cook is clearly a convert to the advanced views in regard to infections of the teeth and tonsils being important influences in diseases of children, but conservative enough to express a note of warning not to hastily sacrifice teeth and tonsils in persons of more advanced age.

Dr. F. R. Holbrook presented an exceedingly interesting discussion on the diagnostic and therapeutic value of spinal puncture in injuries to the brain. Dr. Holbrook strongly emphasized the importance of measuring the spinal fluid pressure at an early moment in brain injuries, and deplored the tendency on the part of physicians to delay this scientific method as a relatively accurate means of determining how serious the injury to the brain is, and not wait to see what might happen.

The class of cases the doctor had in mind were not cases of depressed fracture of the skull, in regard to which the indications for treatment were

plain, but in cases in which decompressive skull operations had heretofore been considered. Since surgeons had employed spinal puncture repeated, according to a certain measure of pressure the mortality to a certain important class of serious brain injuries had decreased at least one-half. Dr. Holbrook condemned the practice of assuming that in a certain case, the physician contented himself with the diagnosis of concussion or contusion of the brain, when a means of determining with considerable accuracy what was transpiring in the brain was at hand.

We trust that Dr. Holbrook will present his observations in the Journal.

Scott County Medical Society

The Scott County Medical Society met at the Davenport Chamber of Commerce October 7 at 8:00 p. m. Dr. H. N. Decker reported that Dr. A. B. Kuhl had won the society golf tournament played off the previous week. He will receive a loving cup donated by the society. Dr. J. D. Blything made the lowest score for the event. The society voted to accept the challenge of the Davenport Dental Society and play a match golf tournament with them the following week.

Dr. G. W. Doolan, present city physician, was elected to membership in the society. It was voted to postpone the November meeting ten days on account of election and armistice days intervening.

Motion was made to cooperate with the American Society for the control of cancer in holding a "Cancer Week" either the first or second week in December. A report by Dr. E. C. Rosenow was read regarding the epidemic of infantile paralysis in Clinton in which it was noted that in thirty-five cases there were no deaths and only one of slight paralysis. The serum seemed more specifically curative in this than in any other epidemic in which it has been used.

Dr. Walter L. Bierring of Des Moines discussed his work on Edema in Nephritis and cited two of his cases in which calcium salts in one, and decapsulation of the kidney in the other had reduced a chronic long standing very marked edema. Davenport is the town of his birth and he was very affectionately and cordially received. Dr. John I. Marker led in the discussion.

Dr. Louis A. Buie of the Mayo Clinic, Rochester, Minnesota, gave a very excellent and stimulating talk on Proctology in General Practice, discussing the method of examination, and treatment of various diseases of the rectum. Dr. A. P. Donohoe led in the discussion.

Over 100 members and visitors were present to hear these excellent papers.

Paul A. White, Sec'y.

Tama County Medical Society

The Tama County Medical Society met at Conant Park, Gladbrook, September 3, with a good attendance.

Webster County Medical Society

The scientific program of the Webster County Medical Society for the balance of the year is as follows:

September 16—Tuberculosis of the Spine—Dr. F. L. Knowles.

September 23—(Subject to be announced later), Dr. J. E. Galvin.

September 30—Technic and Value of Skin Protein Test, Dr. A. G. Asher.

October 7—Electro Therapeutics, Dr. W. R. Turner.

October 14—Acute Abdomen, Dr. A. N. Thoms.

October 21—Hydatidiform Mole, Dr. W. W. Bowen.

October 28—Vascular Hypertension, Dr. W. C. Porath.

November 4—Business, Dr. W. J. Donovan.

November 11—Observation on the Prognosis of Chronic Valvular Heart Disease, Dr. Fred M. Smith, Professor of Medicine University of Iowa.

November 18—Toxemia of Pregnancy, Dr. E. C. Kepler, Pocahontas.

November 25—Ethylene Anesthesia, Dr. J. S. Lundy (Mayo Clinic).

December 2—Surgery of Stone in the Kidney, Dr. H. W. Scott.

December 9—Carcinoma of the Cervix, Dr. E. M. Kersten.

December 16—Operative Treatment of Hemorrhoids, Dr. A. E. Acher.

State Society Iowa Medical Women

The State Society of Iowa Medical Women held their twenty-seventh annual session at Hotel Chamberlain, Des Moines, Iowa, May 6, 1924. The following officers were elected for the coming year: President, Jane Wright, M.D., Clear Lake; vice-president, Grace Doane, M.D., Des Moines; secretary, Eleanor Hutchinson, M.D., Woodward; treasurer, Helen Johnston, M.D., Des Moines.

Josephine W. Rust, Sec'y.

The Thirty-Seventh Annual Meeting of the Medical Society of the Missouri Valley

This important Medical Society convened at Des Moines September 17, 1924, for a three days' session, under the presidency of Doctor H. J. Lehnhoff of Lincoln, Nebraska. Dr. Charles Wood Fassett, Kansas City, Missouri, secretary.

The general features of the program consisted in clinical demonstrations at the morning sessions, and formal papers and discussion at the afternoon and evening sessions. This method of conducting a medical convention has much to recommend it. The clinical program was presented by Des Moines physicians in the assembly room of the Fort Des Moines Hotel and were of the nature of "Dry Clinics" commencing at 8:30 a. m. and extending to 12:30 p. m.

During the afternoon session, formal papers were presented, and sufficient time was given for a full

discussion, except the first day, the papers were for the most part presented in the form of a symposium, a method of presentation to be commended.

On the first day the social session was introduced by a paper by Doctors Frank Dickson and Rex Dively of Kansas City, Missouri, on Infantile Paralysis, followed by a smoker given by Polk County Medical Society.

At the evening session of the second day, President Lehnhoff delivered his address, followed by an exceedingly interesting demonstration by Dr. George E. Brown of the Mayo Clinic on Vascular Diseases with Special Reference to Capillaries. Dr. Philip Kreuscher of Chicago, Knee Joint Injuries and Their Management.

The President's Address is worthy of special mention in that it presented matters of particular interest, not only to the practicing physician, but to the general public, touching the responsibilities of the individual, the public and the physician.

Introductory to the scientific program was a well managed banquet. It is rare that a more delightful and a more sensible or better menu is presented at a medical banquet.

As it seems to the writer the Des Moines meeting was a success.

Officers elected: President, Dr. John W. Martin, Des Moines, Iowa; first vice-president, Dr. A. P. Overgaard, Omaha, Nebraska; second vice-president, Dr. George H. Hoxie, Kansas City, Missouri; treasurer, Dr. O. C. Gibhart, St. Joseph, Missouri; secretary, Dr. Charles Wood Fassett, Kansas City, Missouri.

MARRIAGES

Dr. R. E. Doering of Tama and Miss Marie Taubert of St. Tamis, were married September 20, 1924.

Dr. J. Gwine Fowler of Emerson and Maude Taylor, also of Emerson, were married August 30. Dr. Fowler is a graduate of Creighton University School of Medicine.

Dr. Robert T. Lenaghan of Clinton and Miss Anne L. O'Neil of St. Louis, were married February 10. Dr. Lenaghan is a graduate of St. Louis University School of Medicine.

Dr. G. T. McCauliff of Webster City and Mrs. Gladys Hathway, also of Webster City, were married September 2.

Dr. F. V. Hibbs of Carroll and Miss Vera Farrell, also of Carroll, were married August 12 at Spencer. Dr. Hibbs has been associated with St. Anthony's Hospital for the past six years.

Dr. George P. Elvige of Perry and Miss Lenore M. Herman of Algona, were married at Algona, September 17, 1924. Dr. Elvige is a graduate from the School of Medicine University of Illinois.

Dr. George Irving Nelson of Iowa City and Miss Amelie Kraushaar of Waverly, were married at Waverly September 13, 1924. Dr. Nelson is a graduate from the medical department Iowa State University and is an assistant in internal medicine, University Hospital.

COMING MEETINGS

The Linn County Medical Society has a number of excellent programs planned for the coming year, and all physicians are cordially invited.

Meeting Thursday, November 13, we will have the pleasure of hearing Dr. E. E. Irons, dean of Rush Medical and the originator of the focal infection theory. Dr. Irons has chosen as his subject, Acute and Chronic Local Infection as a Cause of Systemic Disease. On the same evening Dr. Geo. F. Suker will discuss systemic disease as diagnosed by the specialist.

On December 11 we will have Dr. McKimm Marriott of St. Louis, Missouri, and any physician interested in the welfare of infants and children should not fail to hear this man who is a leader in this field. Dr. Harry Culver of Chicago will also present a paper on some genitourinary subject.

The January meeting to be held on the 8th, will be a skin clinic in the afternoon and lantern demonstration of skin cancers at night by Dr. Richard Sutton of Kansas City.

PERSONAL MENTION

Dr. J. Alvin Jefferson, who has been attending Harvard Post Graduate Medical School, opened offices at Des Moines September 2.

Dr. A. G. Byers of Lake View, has purchased the practice of Dr. C. S. Bliss and will remove to Coggon.

Dr. and Mrs. Gershom Hill and Dr. Julia F. Hill have returned from an extended visit in New England. Dr. Julia Hill visited several hospitals and sanitariums for study and observation.

Dr. Homer W. Scott, formerly a member of the medical department of the University of Iowa, has located in Fort Dodge, and will be associated with the Physicians and Surgeons Clinic as urologist.

Dr. John Carl Tufel of Buffalo, Iowa, has located in Davenport for the practice of medicine. Dr. Tufel is a graduate of the Iowa University School of Medicine of the class of 1904.

Hosts for the Wednesday surgical luncheon at Harris-Emery's tea room included Drs. A. S. Price, F. R. Holbrook, W. S. Conkling, E. D. McClean, A. E. Shaw; for Thursday, Drs. F. W. Fordyce, S. P. Stoner, C. E. Holloway, F. B. Langdon; for Friday, Drs. W. B. Hight, Howard D. Gray, O. W. Kinh, S. E. Lincoln. Hosts for the medical luncheons held at Younkers' tea room included for Wednesday, Drs. Carl H. Carryer, Eugene McCaffrey, C. B. Luginbuhl, Lawrence Smith, F. W. Rice; Thursday, Drs. Frank L. Williams, J. S. Weingart, T. B. Throckmorton, W. E. Sanders; Friday, Drs. A. Carson, John Connell, Russell Doolittle, James E. Dyson, Harry D. West.

Dr. James C. Mooney of Chicago has located at Parkersburg, Iowa, to take up the practice of Dr. T. A. Hobson, deceased.

Doctors S. A. O'Brien and H. D. Fellow of Mason

City, attended the American and Canadian Eye, Ear, Nose and Throat Convention at Montreal, Canada.

OBITUARY

Dr. S. G. Nordstrom, formerly of Sioux Rapids, was killed in an automobile accident at Hollywood, California, August 23, 1924.

Dr. Nordstrom was born in Henry county, Illinois, November 8, 1869. He came to Webster county, Iowa, with his parents when a child. Received his preliminary education at Drake University, and graduated in medicine from Rush Medical College.

Dr. Nordstrom began practice at Dayton, Iowa, in 1888. In 1890 he moved to Sioux Rapids where he practiced medicine about thirty years. He moved to Hollywood, California in 1919.

On June 1, 1898 he married Miss Nellie E. Burnham of Storm Lake. Two children were born, both of whom died in early youth.

Dr. Horace A. Lowery died at his home in Sperry, Iowa, August 17, 1924, after an illness of nine months' duration. Dr. Lowery was the son of Rev. Frederick B. and Catherine Lowery who settled in what is now Lee county, Iowa, in 1839. He was born in 1852 and graduated from the College of Physicians at Keokuk, in 1876. Soon after his graduation, he married Miss Carrie Hewett of Burlington, Iowa, who survives him.

Dr. Lowery practiced medicine for forty-eight years, forty-six of which were spent in Sperry where he rendered heroic service as a county physician. He stood high in the esteem of his colleagues, and was a man of rugged character and many friends. Dr. Lowery was a member of the Masonic and Odd Fellows fraternities. He was also a member of the Hawkeye Natives. The Masonic Lodge of Mediapolis conducted the burial service. Besides his wife, Dr. Lowery leaves to mourn his departure, one daughter, Mrs. Thornton Burrus of Sperry, three sisters and a brother, Dr. O. W. Lowery of Des Moines.

Dr. William Donnelly of Ryan, died at his home, September 9, 1924.

Dr. William Donnelly was born near Geneva, Illinois, October 2, 1857 and came to Iowa with his parents when a child. He attended the public schools and St. Joseph's College at Dubuque. Graduated in medicine from Bellevue Hospital Medical College in 1883. For two years Dr. Donnelly practiced medicine in Manchester. From Manchester he moved to Emmetsburg where he practiced for five years, and in 1890 removed to Ryan, and continued to practice until failing heart compelled him to retire five years ago. On January 19, 1887 he married Miss Emma Klonus who survives him.

Dr. W. P. Mower of Perry, died at his home July 20, 1924, of heart disease. He was born in Perry,

studied medicine and was graduated from the University of Nebraska in 1897. After graduating he entered upon the practice of medicine in Perry with his father.

Dr. Mark M. Evans, formerly of Le Grand, died at St. Louis, Missouri, September 19, 1924, of pernicious anemia after three years' illness.

Dr. Evans was born on a farm near Tama April 18, 1872, attended Marshalltown high school, from which he graduated with the class of 1892 and from Rush Medical College in 1899. Following graduation in medicine, Dr. Evans located in Le Grand, where he practiced until his health failed about three years ago.

Dr. George Paul was born in Darseshire, England, November 15, 1843, and passed away at his home in Lehigh July 1, 1924, aged eighty-one years, seven months and fifteen days. He came to this country when quite young and over thirty years ago located in Lehigh. He twice enlisted in the Civil War. First in 1861 with Co. R, 7th Iowa cavalry and with this unit he served until February, 1864. He reenlisted in Co. K, 7th Iowa cavalry and served until the close of the war. For many years he was a practicing physician, but of late years did not follow his profession.

On December 25, 1864, he was united in marriage to Miss Mary McDuff, at Spirit Lake, Iowa.

BOOK REVIEWS

A PRACTICAL TEXT-BOOK OF INFECTION, IMMUNITY AND BIOLOGIC THERAPY WITH SPECIAL REFERENCE TO IMMUNOLOGIC TECHNIC

By John A. Kolmar, M.D., Professor of Pathology and Bacteriology in the Graduate School of Medicine, University of Pennsylvania, with an Introduction by Allen J. Smith, M.D., Professor of Pathology in the School of Medicine of the University of Pennsylvania. Third Edition. Thoroughly Revised and Mostly Re-written. Octavo of 1210 Pages, Containing 202 Original Illustrations, 51 in Colors. W. B. Saunders Company, 1923. Price, Cloth, \$12.00.

The title page in itself is sufficient to relieve the reviewer of an extended notice. The contributions of the author are so well known to the profession that little may be said of the merits of the book. The object of the work as set forth in the preface to the third edition, is of the first importance. "To give to practitioners and students of medicine a connected and concise account of our present knowledge regarding the manner in which the body may become infected, and the method, in turn, by which the organism serves to protect itself against infection, or strives to overcome the infection if it should

occur, and also to present a practical application of this knowledge to the diagnosis, prevention and treatment of disease." Then the authors advise us on another point of equal importance and will add to the value of the book to those not engaged in special laboratory work. "To give to physicians a book to serve as a guide to the various immunologic methods and to students of medicine and those especially interested in this branch of work."

We have thus quoted somewhat extensively from the preface as to the purposes of the book, because of the immense amount of work included in this volume.

The book presents at first, General Technic, followed by the Preservations of Serums, including methods. Immunity, with a discussion of the Theories of Immunity. Antigens and Anti-bodies, Types of Immunity. Anti-Toxins, Ferments, Antiferments, etc.

The author considers treatment of infections by vaccine methods of various diseases caused by infection. We mention this fact to show that the work is not entirely devoted to laboratory technic, but is extended to the treatment of diseases of infectious origin by serums. The tendency in recent years has been to substitute for drugs in certain forms of disease, vaccine or serum treatment, and it is fortunate that men of unusual opportunities present an authoritative statement of how far we may go in this line of therapy, and with what success.

THE MEDICAL CLINICS OF NORTH AMERICA

Vol. VII, No. 4, January, 1924; Octavo of 313 Pages, with 66 Illustrations. W. B. Saunders Company; Per Clinic Year, Paper, \$12.00, Cloth, \$16.00.

This is an University of Kansas number and is an interesting exposition of University of Kansas medicine. The first clinic is by Dr. Ralph H. Major of three important cases. Dr. Peter C. Bohan presents a case of Ligneous Thyroiditis Associated with High Grade Dental Infection and two cases of Hemoplegia. Dr. L. S. Milne presents a series of cases of Hodgkin's Disease. Dr. Russell L. Haden discusses the use of Volume Index in the Study of Blood in Anemia, which is presented in an interesting manner.

In addition, cases illustrating Certain Problems in Focal Infection. Dr. George Howard Hoxie considers the Differential Diagnosis between Beginning or Low-Grade Hyperthyroidism and the Exhaustion of the Body Due to Focal Infections.

This clinic number considers a considerable variety of subjects which will appear particularly interesting to the practicing physician.

If there is any criticism to be made of these clinics, it is because of an over-balance of technical subjects and laboratory investigations which are quite beyond the facilities of the great body of physicians.

ANNUAL REPORT OF THE SURGEON GENERAL OF THE PUBLIC HEALTH SERVICE OF THE UNITED STATES

For Fiscal Year 1923. Government Printing Office, Washington, D. C.

This volume of 316 pages contains information on every question affecting public health. We are at once impressed with the extent of the activities of this department of government service, nothing seems to have been overlooked. The wide range of work, which takes into account conditions existing in every country with which we have trade relations, impresses us with the fact that we are adequately protected against the importation of dangerous infectious diseases. Surgeon General H. S. Cumming, with his corps of assistants, has accomplished a surprising amount of work. We are impressed with the fact that there are too many vacancies, which has made it necessary to enlist the services of a number of surgeons from the Reserve Corps. The difficulty of securing the most desirable men will no doubt increase unless the government does something to make the service more attractive. The rewards in civil life are greater. Certain recommendations are made which are reasonable and should be considered. It is recommended that a limited number of medical officers in the Reserve Corps be regularly commissioned, and that assistant surgeons be advanced after three years of service, instead of four years as at present.

THE MEDICAL CLINICS OF NORTH AMERICA

St. Louis Number, March, 1924. Published Bi-Monthly by W. B. Saunders Company. Paper, \$12.00 Per Clinic Year.

This number is introduced by a very interesting clinic on Pituitary Tumor, by Dr. William Engelbach, of St. John's Hospital.

The second paper by Dr. Ralph A. Kinsella on Hypertension and Nephritis, and another clinic on Nephritis in Children.

A discussion of some of the Diagnostic Problems of Lobar Pneumonia in Children, by Dr. Borden S. Veeder, and Diphtheria by Dr. Philip C. Jeans, are a lesson in themselves.

The title Heart Disease, is a neurologic clinic by Dr. Sidney I. Schwab, and Hysteria, by Dr. Francis M. Barnes, Jr., are attractive and full of interest, also Headache, by Dr. John L. Tierney.

These are a few of the clinics in this most excellent number.

PROCEEDINGS OF THE SEVENTEENTH ANNUAL MEETING OF THE ASSOCIATION OF LIFE INSURANCE PRESIDENTS

December, 1923.

Life insurance has become so much a part of our everyday life that a report of its high officers will be of profound interest, not only to life insurance

examiners, but the medical profession as a whole.

Besides a discussion of life insurance activities, there are discussions of medical subjects in their bearing upon risks and longevity which are of practical value to practitioners of medicine.

SEWAGE TREATMENT IN THE UNITED STATES

Report on the Study of Fifteen Representative Sewage Treatment Plants. By H. H. Wagenhals, E. J. Theriault and H. B. Hommon. Prepared by Direction of the Surgeon General. Government Printing Office, Washington, D. C.

This pamphlet will be of particular interest to sanitary engineers and those interested in sewage plants. Two hundred sixty pages are devoted to this subject.

STUDIES ON VARIOUS INTESTINAL PARASITES (ESPECIALLY AMOEBAE) OF MAN

By William C. Boeck and Chas. Wardell Stiles. Government Printing Office, Washington, D. C.

This report is based upon the possible bearing of the World War in the spread of zooparasitic infections, especially amoebic dysentery in the United States.

This government report will be of special interest to physicians practicing at seaports or in hospitals where patients from tropical countries are received and treated.

Glomset.

TRANSACTIONS OF THE FOURTH ANNUAL CONFERENCE OF THE MALARIAL FIELD WORKERS

Held at Chattanooga, Tennessee, November 14 to 16, 1922. Prepared by Direction of the Surgeon General. Government Printing Office, Washington, D. C.

This pamphlet of 183 pages contains a series of papers and abstracts of groups of sanitary officers engaged in this work in drainage areas and railway construction.

OBSTETRICAL NURSING

A Manual for Nurses and Students and Practitioners of Medicine, by Charles S. Bacon, Ph.B., M.D., Professor Obstetrics in University of Illinois and the Chicago Polyclinic, etc. Second Edition, Thoroughly Revised. Illustrated with 126 Engravings. Lea & Febiger, 1924. Price \$2.75.

The first chapter is devoted to a somewhat extended instruction concerning the requirements of a nurse and what may be expected of her, which a candidate for training might read before entering upon a course of study.

Chapter two takes up anatomy, physiology and embryology. Chapter three considers the changes in pregnancy, physiological and pathological, and the management of the pathology. There are many conditions which may arise during the course of pregnancy which cause great discomfort and not a little danger, which the nurse should be able to recognize, in the management of the case. These are pointed out in detail.

Chapter four. Labor, the mechanics of labor, the management of labor. The accidents which may follow, as postpartum, hemorrhage, distocia and obstetrical operations. This section of the book is well illustrated.

The lying-in period is treated with much consideration and the author points out what should be done, in detail. Its duration, the care of the person, puerperal fever or genital wound infection, tetanus, puerperal insanity, diet, the breasts, posture, bed, exercise. The last chapter is devoted to the infant. This section of the book is interesting and very instructive. Many things are pointed out which serve the infant's welfare and tend to increase the infant's comfort and its chances of surviving the accidents of the first year of the new-born. Dr. Bacon has had a vast experience and has attained a high place in this branch of medicine.

A PHYSICIAN'S MANUAL OF VACCINE THERAPY

By G. H. Sherman, M.D.

This book of 160 pages has been prepared by Dr. Sherman at his laboratory in Detroit setting forth his views and practice in vaccine therapy, upon which there has been much controversy.

Dr. Sherman advises us that this book has been written in response to request of many physicians who are interested in his work.

NEW AND NON-OFFICIAL REMEDIES

In addition to the articles enumerated in our letter of June 28, the following have been accepted:

Manhattan Eye Salve Company:

Butyn Ointment—M. E. S. Co.

Holocaine Ointment—M. E. S. Co.

In addition to the articles enumerated in our letter of July 26, the following have been accepted:

Coleman and Bell Company:

Gentian Violet Improved Medicinal.

Hynson, Westcott and Dunning:

Meroxyl.

Meroxyl Tablets—H. W. and D.

Jensen-Salsbery Laboratories:

Rabies Vaccine (Human) Phenol Killed.

Eli Lilly and Company:

Oridine.

Oridine Tablets.

H. A. Metz Laboratories:

Silver-Salvarsan, 0.6 Gm. Ampules.

National Aniline and Chemical Company:

Gentian Violet Medicinal—"National."

Parke, Davis and Company:

Diphtheria Toxin Antitoxin Mixture, 0.1 L—P. D. and Co.

E. R. Squibb and Sons:

Antistreptococcic Serum—Squibb, packages one 10 Cc. syringe.

Antistreptococcic Serum—Squibb, packages one 50 Cc. vial.

Antistreptococcic Serum Rheumatic—Squibb, packages one 20 Cc. vial.

Antistreptococcic Serum Rheumatic—Squibb, packages one 50 Cc. vial.

Diphtheria Toxin Antitoxin Mixture (New Formula), packages thirty 1 Cc. ampules.

Sulpharsphenamine—Squibb, 1 Gm. Ampules.

Sulpharsphenamine—Squibb, 3 Gm. Ampules.

Frederick Stearns and Company:

Insulin—Stearns Quadruple Strength.

Wilson Laboratories:

Ampules Pituitary Solution—Wilson, 0.5 Cc.

Nonproprietary Articles:

Thiosinamine.

Gentian Violet Medicinal.

Merck and Company:

Barbital—Merck.

Barbital Sodium—Merck.

Carbon Tetrachloride—Merck Highest Purity "C. P."

H. K. Mulford Company:

Cargentos Capsules, 3 grains.

Cargentos Ointment, 5 per cent.

Diphtheria Toxin—Antitoxin Mixture New Formula (Park Banzhaf 0.1 L+ Dose)—Mulford.

Nutrivoide Diabetic Flour Company:

Nutrivoide Flour.

Parke, Davis and Company:

Antidysenteric Serum—P. D. and Co., 20 c.c. Syringe.

Powers-Weightman-Rosengarten Company:

Quinine Ethyl Carbonate—P. W. R.

Armour and Company announce the addition of Parathyroid and Calcium Lactate Tablets. Each tablet contains 1/20 grain of pure Parathyroids and 2½ grains Calcium Lactate U. S. P. Those tablets are packed in bottles of 100 and they are obtained from drug trade and dealers in physicians' supplies everywhere.

In addition to the articles enumerated in our letter of August 29, the following have been accepted:

Abbott Laboratories:

Metaphen.

Metaphen Solution 1:5,000.

Swan-Myers Company:

Sterile Ampules of Mercury Benzoate, 2 per cent.

Sterile Ampules of Mercury Biniodide (Oil Solution).

Sterile Ampules of Mercury Salicylate, 0.097 Gm. (1½ Gr.)

Sterile Ampules of Mercury Salicylate, 0.065 Gm. (1 Gr.)

Sterile Ampules of Mercury Succinimide, 0.01 Gm. (¼ Gr.)

In addition to the articles already enumerated, the following have been accepted by the Council on Pharmacy and Chemistry:

Battle Creek Food Company:

Lacto-Dextrin.

Eli Lilly and Company:

Pituitary Extract—Lilly (Obstetrical).

Pituitary Extract—Lilly (Obstetrical), 0.5 c.c.

Pituitary Extract—Lilly (Obstetrical), 1 c.c.

Pituitary Extract—Lilly (Surgical).

Pituitary Extract—Lilly (Surgical), 1 c.c.

Medical Laboratories, Inc.:

Culture Bacillus Acidophilus—Medical Laboratories, Inc.

Doctor

Read the Advertising Pages

The information they contain will help you to be of greater service to your community.

Do You Need the Counsel of a Specialist?

Read the cards on pages xxvii, xxviii and xxix.

Do You Need Some Special Apparatus?

See page xxix or ask the Journal about it.

Do You Have Something to Sell?

Let the Journal help you sell it.

The Journal of the Iowa State Medical Society

VOL. XIV

DES MOINES, IOWA, DECEMBER 10, 1924

No. 12

ADDRESS OF PRESIDENT*

J. G. EVANS, M.D., New Hartford

Members of the Austin Flint-Cedar Valley Medical Society, Ladies and Gentlemen:

For twenty-five years I have been benefited socially and scientifically by this Society and it is with reverent appreciation of its high purposes that I would especially thank you for the honor you have conferred upon me. It is an organization wherein to serve is an honor abiding with a lasting profit. Its progressive and uplifting functions have been a sustaining force in our general welfare.

In behalf of the visiting members and friends we would not only acknowledge gratefully but would acclaim the splendid hospitality of the profession of Mason City and Clear Lake. It has been a good program, educational and entertaining. Let us commend the secretary of this society, Dr. L. A. West, for his untiring labor and zeal for the success of this meeting for it takes a good secretary to bring about a good program, and further, brethren, let us not overlook but be quick to gaze with approbation upon our efficient treasurer, Dr. Long, who marshals his sinews of war for the firing line and to provide the stuff that keeps campfires burning at their brightest. We all know that these offices are man-sized, many of us have tried our hand therein. And, now, after thanking everybody in sight and out of sight who have given a hand to the success of the day I will proceed to reveal some things which are in my mind.

It is our welfare that demands our attention and is uppermost in our minds and it is right and proper that it should be. Every profession has its problems and it has been my lot to battle with the problems of the general practitioner as the same arise in the country and small town. Much has been said and can be said about the country physician known generally throughout the countryside as "Doc". His praises have been sung by the poet and acclaimed both by the saint and the

sinner. Not much has been said by these gentry as to his troubles. He generally has to look out for himself. His progress in life has been steady. He has traveled in sunshine and storm, in sand and rocks and mud, in daylight, in star light and in no light. He has been fed up on praise. Were he a deity, or had lived in the heroic age he would have been doxologized.

The medical journals, when short of copy, have filled columns in unstinting praise of his efforts and sacrifice.

WHY IS A COUNTRY DOCTOR?

The splendid compliments are pleasing to the fine sensibilities but they cannot be cashed in at par in the commercial marts. The country doctor is a human being with the average amount of ambition, inspiration, sand and sense. He hopes to make his life a success. When he starts in he does it for the same reason that other people work. Men went overland by ox team in 1849 to the gold country of California. They suffered the privations and misery in mountain and desert, risked their lives by starvation and thirst and ran the gauntlet of blood-thirsty Indians, and they went for gold and not for praise, not for the service of humanity nor for the conversion of the poor and benighted Indian. Later, when the Klondike was discovered men again started out for that cold and barren country, they, likewise, went for shekels and not to enlighten, civilize or Christianize the Eskimo. So one of the inducements that leads to the setting up in a small village of a doctor's office is the rendering of service for hire. He locates in a community and grows up with the country and the people. He has succored them in sickness and in sorrow, has battled their diseases, rescued them in their accidents, warned, cheered and exhorted them. He has been one of them. He has not only been their physician and surgeon, he has assumed and earned a place of responsibility in their lives and his interests have become so entwined and thought-bound with theirs that he is in the position of friend and counsellor and he not only is a country doctor but he remains a country doctor.

But his tribe is not increasing. Perhaps va-

*Address of President, Austin Flint-Cedar Valley Medical Society, July 9, 1924, Mason City.

rious reasons bring this about. The hard rides, the misery of transportation in winter, the lack of entertainment, social and school advantages of the city, the small fees and the difficulty of their collection and the vexatious irregularity of the hours of service. The son of a doctor would be advised to practice in a city where hospital service is at hand and where opportunity for promotion and advancement is sure, where a doctor can become more proficient, where he is in a position to inform himself, attend clinics and have all of the modern equipment near at hand not only for investigation but for treatment. So the younger generation, which is better equipped financially than we were, are more able to reach for and attain a city practice.

But any man that is faithful can overcome the disadvantages of a country practice and if he cannot there is something radically wrong with him or with the community. He is entitled to good pay for good service. One of his problems is that he is so well acquainted with the entire community that it is embarrassing for him to refuse to serve even when he knows that his patient cannot and sometimes will not pay for the most dire need of his family.

The country doctor that does his duty to his people calls a specialist or takes his patient to a specialist in the cases that need the special or expert treatment. I know that many articles have been written during the past year by doctors remote from hospitals making complaint of the shabby way in which they were treated by expert surgeons called in by them and by the surgeons at the hospitals where the cases were taken. My experience has been different. The specialists I have called and who have assisted me have always done their best and have treated me and my people faithfully and ethically and I trust that this has been your experience. The welfare of the patient is ever paramount and it certainly is to the best interests of our patients if quickly, cheerfully and confidently we take them to those places and to the men, who better than anyone else, can operate and treat and where the hopes for recovery are the best.

One of the things that must be banished by the young country practitioner is self-pity. Naturally he feels sorry for himself when he is pelted with the rain or stuck in the mud or kept two nights without sleep and compelled to stay out where the sanitary conditions are howling to high heaven for improvement; where he carries his own soap and goes without meals for a day. But the lot of the doctor is better than his patient. His cross is lighter and easier to bear than those whom he serves in these conditions and it is his duty to

cheer himself up and lend a hand at that. Take some of the advice that you give your patient and why worry? You are going fine, as F. P. A. said:

"The race is not always to the swift,
Nor the battle to the strong,
But the best of life is ever
To the fellow that keeps plodding along."

Contentment is a great thing. The radical propagandists to the contrary notwithstanding. Adam and Eve were perfectly happy and sweetly contented in the garden of Eden until Satan's prescription was taken and they beheld their naked condition and Eve began making garments of fig leaves and both of them were ashamed of themselves. They wanted to improve. They got no happiness out of the change. Thus it is with some country doctors, they are contented, happy and doing good work until they hear of the phenomenal equipment of some city brethren and of the fabulous fees collected and then the country doctor has a revelation. It dawns upon him that the people in general have a poor opinion of the country practitioner and that if he knew much he would not be there, that he is a back number. He reads the circulars that come in his mail of how to enlarge his practice, takes some of his own medicine, becomes more discontented and, like Achilles, remains sulking in his tent until the disease passes away and he gets a half dozen calls to be in a half dozen different places all at the same time with no opportunity to get help from any other source and his duties work out his salvation.

Of all the men in a community that assume responsibility we believe it may be safely said that the country doctor standing alone with no one to consult with in matters that demand correct decisions assumes the gravest responsibility. If he makes a mistake he is self-convicted and must suffer.

He can become an all around strong man but his opportunities for advancement otherwise are circumscribed. He can never attain the height of the specialist. He is like the tree that grows out in the open, symmetrical and strong in every fibre, strengthened by every storm and receiving in full measure the gladsome air and the sunlight of life. He cherishes the good will of his fellows. Socially he is an exponent for what is best and highest, rather a big toad in a small puddle which is pleasing to him, for the man who does not like praise better do something for himself, for he is not exactly right as has been said:

"The love of praise how'er concealed by art
Reigns more or less and glows in every human
heart."

In the movements for human betterment, and especially in health matters, his influence is greatly and universally heeded. His facilities for service are improving. The coming of the automobile now numbering one hundred forty-four thousand among physicians has added to his comfort and efficiency, and it is only at rare times in the winter months that the old horse and buggy is and must be relied upon. Another advantage not to be overlooked on the part of the rural doctor is that while he is not what you would call "flush" invariably he is able to meet the ordinary expenses of life and have some considerable fund at hand for worthy causes.

The country doctor has received a far-reaching benefit from societies such as ours. It has broadened him out. Instead of quarrelling with each other and manifesting petty jealousies, the rural brethren are using their strength and talents for a more noble purpose and that is in fighting disease and competing to see who best can serve and best agree. The profession through its societies is prepared to educate the people along the lines of medical truth and hygiene.

The word of one man is weak in condemning fraud as compared with the voice of a society whose purpose is known to be for the dissemination of truth and the welfare of the people. Ignorance and superstition are still stalking among us. During the recent mad dog scare in Illinois mad stones were advertised, sold and used in competition with the Pasteur treatment. No wonder Moses broke the stone tablets which he received on Mount Sinai! The country doctor should be a member of a society such as ours and merit its good will, for ours is like other professions, the man who merits good will and respect of his brethren is likewise judged by the public and is rapidly fulfilling the law and gospel of his destiny.

It is his duty to inform the people of the advancement made all along the line of medicine and surgery. He should be a light to reveal to his people the danger of quacks and the benefit of the truth as gleaned by the most enlightened men of the profession.

We have instruments of precision today that were the dream of the old doctor. Blood-pressure instruments have been made more perfect and the end is not yet. Thirty years ago membranous croup or laryngeal diphtheria worked fearful havoc. We had to educate the people as to the benefits of antitoxin. Objection was made to administering it. Now the physician who does not give heroic doses of antitoxin before a bacteriological test is made incurs not only the censure of the profession but of the laity. Right

now we are reading in the medical journals of a serum being used for scarlet fever with encouraging results. So many educated persons working on the same problem will in time bring gratifying results. Until the discovery of insulin we had not much to offer our diabetic patients but diet except to keep them from lying quacks and frauds. Now it is different.

It would be a good thing for the country doctor if he could have the benefit of a committee appointed by the profession to protect him from the purchasing of equipment of doubtful value. Most any morning we may receive by mail a large envelope containing the advice, "Do not be satisfied with a small income, doctor". With it is a beautiful picture of a fine appearing, well groomed man addressing a doctor seated by his table. The medical director seemingly is interested. On opening the folder you are given the opportunity to purchase all manner of electrical apparatus for cash or credit. "Learn all about electro-therapy and how to apply it in a learned manner in a short time. Find stamped post card and tell your wants". The answer thereto will be more literature and a salesman will appear to reveal to you how to increase your practice.

We would not have you think that the use of electro-therapy, high frequency, or other electrical application is not a useful weapon for the cure and alleviation of disease and should not be studied but when it requires a life-time to become proficient or efficient in the use of electro-therapy and proficiency in the practice requires hours of close application, the ordinary mortal should hesitate to acquire proficiency from a salesman instead of from a master. Go in and look at your old x-ray machine that you have had for about twenty-five years, dust covered, perhaps, and in most instances junk and a pure bred descendant of the relics of the old curiosity shop.

And so through the struggle of ways and means the country doctor has learned that life means opportunity. Sermons have been preached and books written on what a man shall do to be saved. The doctor's life is wholly involved in the question "How shall he save the other fellow"? He long ago failed to become interested to serve or elevate himself by tugging at his own boot straps. He has learned that the way to get up himself is to lift the other fellow, that his life is a mission and in a measure he has thus solved the question of the purpose of creation in that by following the line of duty he has found it to be co-incident with the line of service.

Out under the stars late at night he realizes that he is the trustee not only of his own destiny but the destiny of many. It has dawned upon

him that life is more than mere existence. That for him it is a trust and a privilege and that its greatest glory is responsibility ably met and duty performed, and that its rewards are and must be sure and certain and are not circumscribed by the lids of dusty ledgers or bills receivable. He then has come into his own, and knows that the healing of the sick, the comforting of the aged and the unfortunate, the cheering and encouragement of the youth, and the teaching of them to stand, walk and work, and likewise give to the world a true servant of the people, is humanly possible and divinely commendable.

TWENTY CENTURIES OF PSEUDO-SCIENCE*

M. B. CALL, B.A., M.D., Greene

There is a chronic pathological condition which affects the entire practice of medicine and it is the purpose of this paper to briefly outline the history, etiology, types and possible methods of treatment which may be employed in dealing with it. This pathological condition is quackery.

The medical profession, conscientiously endeavoring to discover the true course and rational treatment of morbid conditions, can not look with indifference upon anything which threatens the public health or tends to obstruct the forward movement of medical science. Medicine is a true science and there can no more be "cults" and "isms" in it than in chemistry or astronomy. There is no compromise with truth.

As far back into the past as we have any records quackery existed, and it will probably be with us to a greater or lesser extent for many years in the future.

In the beginning of medicine it was impossible to make a sharp distinction between the true and the false ideas of diseases and their treatment because all knowledge of the body was so crude that it could scarcely be regarded as science.

It is probable that in prehistoric times the sick were exhibited in public places, as they have been among primitive races in later times, in order that the passerby might suggest remedies which had helped him in similar conditions. From this crude beginning our profession has developed into a true science—sometimes rapidly, as under the influence of Hippocrates and during the last century, and sometimes remaining almost stationary as during the middle ages.

At the time of Hippocrates the Greek temples contained images and inscriptions describing ill-

nesses of which the donors had been cured through the influence of the gods to whom the temples were dedicated. It must have added greatly to the dignity of these places of worship to have their walls lined with terra-cotta figures of deformed limbs and malignant neoplasms. At this time the sacred serpents also inhabited the temples and helped to promote the awe and mysticism so necessary for the supernatural cures in which the majority of the people believed.

Medicine had made considerable advance before the time of Hippocrates, but his influence did more to establish it as a separate science than anything up to his time. He was the first to dissociate medicine from priest-craft, considering the temple inscriptions merely as case records, and insisting that, however diseases might be regarded from the religious point of view, they were all subject to natural laws and must be treated by scientific methods. His keen powers of observation, extensive travels, and thorough education made the "Father of Medicine" a capable physician, and his extensive practice and voluminous writings made his influence felt to such an extent that his period marks an epoch in medical history.

Following Hippocrates other ancient physicians added their bit to the store of medical knowledge until shortly after the time of Galen the Dark Ages began. During this period—from the fourth to the sixteenth centuries—the science of medicine was practically at a standstill, as was every other line of human thought. The priesthood controlled learning, and by a crude system of theology prescribed the limits of knowledge, beyond which the minds of men were forbidden to venture. "Scholasticism" was established on theories borrowed from Aristotle and for centuries scholars commented on these theories, but could not doubt them without punishment. A physician who dared to question the teachings of Galen might be burned at the stake. Naturally there was stagnation in medical knowledge.

To us, it seems impossible that for more than a thousand years, until the time of Harvey, the learned members of our profession, with a few exceptions, still believed Galen's theory of circulation. According to this theory, the blood was manufactured in the liver and ebbed and flowed through the vessels without any propulsion from the heart; the right and left circulation having no communication except by minute pores between the two ventricles. But it must be remembered that dissections were seldom made and were more in the nature of social events than serious study, and that the medical curriculum

*Read before the Austin Flint-Cedar Valley Medical Society, July 9, 1924, Mason City, Iowa.

was made up largely of the study of logic, astrology, and the classical languages. It must also be remembered that during the last century more was achieved by our profession than during all of the thousands of years preceding.

With this brief review of the development of medicine as a setting, let us turn our attention to some of the types of the pathological condition under discussion. Quackery occurs both sporadically and epidemically. The sporadic instances have been of less importance than the epidemics of cultism which have flourished from time to time, but in general they are more spectacular and more interesting.

We know that in ancient Greece and Rome quacks of all kinds were active with their eye salves and other nostrums. The Babylonians protected the public health by establishing laws which deprived a practitioner of his life, if his treatment resulted in the blindness or death of his patient.

Pare, in his memoirs describes a Spanish impostor who in 1553 treated a French duke who had been shot through the chest. The Spaniard promised his patient that in eight days he would be cured provided that none be allowed to touch him but himself. He then proceeded to lay strips of the duke's shirt cross-wise over the wound meanwhile murmuring and muttering certain words and advised his patient to eat whatever he chose for he himself would do the necessary dieting.

However, the patient promptly died and, to use the author's words—"the Spaniard seeing him at the point of death, eclipsed himself, and got away without good-bye to any man." Pare, himself a well trained army surgeon, had great contempt for quackery, but held fast to the teachings of Galen as ethical practitioners of his time did. In his entertaining memoirs he describes many interesting wounds which he treated and closes many case reports with the simple statement, "I dressed him and God cured him." After reading his descriptions of the treatment employed, one can not help feeling that God played a very large part in the case.

At the time of George II one of the most prominent practitioners in London was a quack, Joshua Ward—usually called "Spot" Ward, because of a conspicuous mark on his face. He had no medical training, but was clever and unscrupulous and fortunate enough to have reduced a dislocated thumb for the king. This put him in great favor and his secret formula pills and drops became immensely popular among fashionable English people, even Gibbon and Horace Walpole being patients of Ward. In 1748 when

parliament passed a law preventing unlicensed persons from compounding medicines, a clause was added which specially exempted this popular quack from its restrictions.

John Taylor, whom Samuel Johnson described as, "the most ignorant man I ever knew," was an itinerant oculist who traveled over England during King George's reign and was appointed oculist to his majesty. He dressed and traveled in the best of style and gave lectures and used other advertising schemes employed by the medicine shows one occasionally sees today. The numerous pamphlets which he wrote helped to enhance his reputation among those who could not understand them, but exposed his ignorance to medical men of his time. It is interesting to note that Taylor himself became blind and his "infallible" remedies failed to help him.

In 1827 a young Irishman named John Long, but who called himself St. John Long, gave up his occupation as a commercial painter and opened an establishment in London for the treatment of disease. He was an attractive young man with unlimited nerve and soon gained a prominent social position and a large and lucrative practice. The treatments which he employed were the inhalation of a mysterious vapor from a wooden box by means of rubber tubes and the application of an irritating liniment—probably containing croton oil—to the surface of the body over the seat of the disease or the imagined disease. The serous discharge resulting from this irritant removed the disease from the body in the same manner as in the hands of John Till of Turtle Lake. Several fatalities resulting from this treatment finally caused a falling off in his practice, but, although he was tried twice for manslaughter, he continued to find dupes, until at the age of thirty-seven he died of tuberculosis—the disease he had so often "cured" with his magic liniment.

One of the most spectacular of medical institutes since the days of the ancients was that conducted by James Graham in 1780. The building, overlooking the Thames, contained unusual statues and paintings, mirrors, glass globes, awe-inspiring electrical machines, rich draperies, and elaborate furniture. In this mysterious establishment, heavy with incense and to the accompaniment of soft music, Graham gave daily lectures on health and procreation for the modest admission fee of two pounds. But the most remarkable object was found in the inner shrine of this Temple of Health. It was the "Celestial or magnetico-electrical bed." Any couple occupying this bed would be positively assured of numerous progeny. Fifty pounds was the sum re-

quired for this privilege. In two years the proprietor became wealthy, but in a short time interest in the Temple of Health waned and Graham turned his attention to writing religio-medical pamphlets on the order of Mrs. Eddy's "Science and Health". This was not so profitable and the author drifted into poverty and obscurity.

A Connecticut yankee, Elisha Perkins, was the inventor of a compasslike instrument made of various metals which he succeeded in having patented in 1798 under the name of "magnetic tractors". By stroking the body with these tractors remarkable cures were obtained until some skeptic demonstrated that the same results could be obtained with wooden appliances and it was perceived that imagination, and not magnetism effected the cure.

Later imposters you are familiar with and also the various mechanical devices used to deceive the ailing—such as blue glass, "electric belts", "oxy-geners", and numberless other contrivances down to the wonderful machine of Albert Abrams by which a diagnosis of syphilis or tuberculosis can be made from an autograph one hundred and fifty years old. It will be noted that while the appliances used by the charlatans have become more elaborate, their methods have changed very little during hundreds of years.

While the individual quacks are interesting, their influence is not as great as that of the various cults—the epidemic form of quackery. There have always been cults in the healing fraternity. Following Hippocrates there were four distinct cults: the dogmatists who were pure theorists and gave more attention to metaphysics than to treatment, the empirics who considered immediate rather than remote causes of disease, the methodists who reduced medicine to a few simple systems to which everything must conform, and the pneumatists who believed all disease due to aerial substances entering the body. The methodists evolved the theory of "*contraria contrariis curantur*" eighteen hundred years before Hahnemann appeared with his "*similia similibus curantur*".

During the Roman period there were numerous medical sects whose antagonism toward one another often resulted in the poisoning of one physician by another who held different views.

In France during the middle ages the chief friction was between the surgeons and the barber-surgeons.

At the time of Harvey and Sydenham the progressive clinicians were constantly opposed by the pro-Galenites.

Forty years ago there were as many homeopaths graduated as regulars. Now there are probably between twenty thousand and thirty thousand irregulars in the United States treating suffering humanity by such methods as mud bathing, spine thumping, faith curing and scripture reading.

Perhaps the originators of some of the recent pseudo-scientific methods of treatment gained their inspiration from the preceding century. A. D. Still announced his "new discovery" in 1881, but in 1775 Dr. Ling of Stockholm was using massage and manipulations similar to osteopathy in treating some of his patients. Dr. Mailick of Prague published a book in which he tells how the Bohemian peasants gave one another spinal adjustments. This was one hundred and fifty years before the fountain head of chiropractic began to spout at Davenport. Mesmers' "magnetic trough" was not as complicated a piece of mechanism as Abrams' osciloclast, but it served to procure wonderful cures until Benjamin Franklin investigated it and found that it did not generate electricity.

These instances will serve to illustrate some of the forms which quackery assumes, but there are certain characteristics which are common to all medical cults. They are all the result of speculative methods of thought rather than actual knowledge of known facts. By theorizing, a conclusion is reached which may hold true in a limited field, but the error is made of trying to make it apply to every condition. The cultist tries to force all facts into accordance with a preconceived dogma.

Over two thousand years ago the "Father of Medicine" made this statement, which is as true today as it was then—"medicine has discovered certain fixed principles and the road along which, for many centuries past, sure progress has been made in accumulating an infinite number of precious truths. He who, possessing a fair measure of talent, directs his researches from these known truths as a starting point, is reasonably sure of adding to their number; while he who, casting them to one side, pursues another route and then pretends that he has discovered certain fundamental dogmas, deceives both himself and others". The weakness in such theories as those of Hahnemann, Still, Palmer, Mrs. Eddy, Coue and Abrams lies in the deliberate disregard of proven facts and the effort to explain all disease in accordance with one theory. It is absurd to treat all diseases by one method, but the ailing public forgets that.

So much for the general symptomatology, now as to the etiology. There are many causes for the existence of false medical cults, and it is im-

possible to designate any one of them as the chief cause. The inherent qualities of human nature are such that the public is always seeking something new. Scientific medicine is too old and no longer appeals to the lay mind as remarkable. That a physician successfully diagnoses and treats a serious disease is taken as a matter of course. There is nothing wonderful about it. But if the same results can be obtained by some new scheme, it immediately becomes remarkable. When Friedmann came over to the United States with his turtle serum treatment for tuberculosis, he was hailed as a great benefactor of mankind. And yet the percentage of cures which he claimed for his new treatment was no higher than that actually being obtained by the old methods of scientific medicine. It might be stated in this connection that not only did the general public become overly enthusiastic about this short lived discovery, but members of our own profession as well.

People like to feel that they are progressive and many times prefer the new and the untried to the old and proven methods. In every normal person is a certain thirst for knowledge and at the same time an impatience with the unknown. Our patients want to feel that they understand their ailments and their treatments. They want the self-satisfaction of feeling that they know all about themselves. If they can not understand some feature of their anatomy or physiology, they are displeased. Naturally, some system of medicine which is simple and which they can grasp appeals to them. Unfortunately, scientific medicine is too broad to be reduced to a few general principles easily grasped by the untrained mind. On the other hand, some of the pseudo-scientific cults have so simplified the whole healing art that not only can the untrained mind grasp it, but the village blacksmith can practice it.

The intelligence of the patient determines to a certain extent the kind of treatment in which he will have confidence, but the entire subject of medicine is more or less obscure to the layman and his judgment may be easily influenced. Even intelligent physicians have been duped by quacks in the financial world and have invested in oil stocks or real estate projects as fantastic as the cures of the middle ages.

Obedience to the first law of nature—self-preservation—turns many patients to quacks after failing to get relief from some real or imagined trouble at the hands of regular practitioners. In this group are many neurotics and the hopelessly incurable who are willing to grasp at a straw. Perhaps another reason for the existence of pseudo-medical cults is in accord-

ance with Barnums' discovery that "the people like to be humbugged." But whatever the cause, the fact remains that both the ignorant and the well educated are placing their health in the hands of poorly trained and misguided practitioners.

Now as to the treatment of this pathological condition. What is to be done to protect the public from the incompetents and the deceivers? It is hardly practical to resort to the old Roman method and poison them, but something should be done to curb their activities. And physicians as leaders in health matters should do their share in bringing about a reformation.

There are three means that may be employed. The first is legislation. Proper statutes regulating medical practice have done great good in the past and will continue to do so in the future, but few legislative bodies are sufficiently acquainted with the problem to handle it. The English Parliament permitted "Spot" Ward to manufacture and sell his nostrums because certain members were Ward's patients and some of our state legislatures have favored the cults for the same reason. A multiplicity of laws in the United States has made us a lawless nation. When one evil is suppressed, another springs up. At the present time legislation alone will not cure the evil.

Another means of dealing with the problem is education. This offers the best solution, but will require considerable time. The Athenians began to lose faith in the sacred serpents when Aristophanes and other educated young Greeks began to joke about them. The Europeans of the middle ages lost their faith in sacred relics when they learned that eight different thigh bones of the Virgin Mary were being used to effect cures in as many different cathedrals. The high school graduate of today does not put as much confidence in a bag of asafetida as our grandmothers did. As the general public learns more of the truths about medical science there will be less tendency to turn to the cults.*

Newspapers, schools and radio talks are all helping, and two new factors which are doing much to educate the people in medical subjects are the organization of laymen called the "Friends of Medical Progress" and the magazine "Hygeia". The former is offsetting the influence of the anti-vivisectionists and anti-vaccinationists and making research work easier and more appreciated. The magazine is being read extensively by the younger generation and will lead to a better understanding of what scientific medicine is, and what it is doing. In the course of time our legislatures will be composed of members qualified to enact adequate health and

medical practice laws safeguarding the public.

Then there is a third means of eradicating quackery which applies entirely to ourselves, and this can be put into effect at once. We belong to a profession which has developed for thousands of years, that has rid the world of the terrible epidemics which afflicted it for centuries, has lowered the rate of infant mortality, and is making this earth a better place to live in. But we forget that our patients do not always realize this.

They regard us in one of three ways. Some consider physicians superhuman beings who can look at their tongues and tell what ails them. Others regard us as grafters and are suspicious of us. While a small, but satisfactory group regard us as fellow citizens who have made a special study of human ailments and are prepared to treat them. But they can not always differentiate between the scientific physician and the cultist. We should not blame them for that, but we should practice medicine in such a way that there will be no occasion for the cultist or faddist to exist.

To do this we must practice scientifically and ethically, we must keep abreast of the times. Scientific medicine is not limited by any narrow theories, it embraces everything useful for treatment. If we work for the best interests of the patient employing real treatment for his ills—physical or psychic—there will be no reason for substitute treatment. We will retain the confidence of the people and scientific medicine will be supreme.

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PEPTIC ULCER*

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Ulcers of the stomach and duodenum are fundamentally alike, and any slight differences between them are largely due to complications peculiar to their situation.

The term "peptic ulcer", as is commonly used, is applied to a circumscribed loss of substance in the stomach or duodenal wall, involving the mucosa always, and often times the submucosa, muscular and peritoneal coats, caused by the reduced

resistance of the tissues to the digestive action of the gastric juice.

ETIOLOGY

An etiologic basis for gastric and duodenal ulcer, as clinically manifested, has not been satisfactorily established. No doubt many factors contribute to their production, from which have arisen not a few theories, and only a few of these theories, are substantiated by pathologic and clinical basic facts namely—first—circumscribed malnutrition and necrosis of gastric or duodenal tissue and second—evidence of the digestive action of the gastric juice on this devitalized area.

Circulatory causes are the basic factors upon which the production of ulcers depends. These may be relatively cardiac, traumatic, corrosive, bacterial, toxic or trophic. Given a localized area of devitalized gastric mucosa from any cause, and an ulcer is very likely to be the result, due to the corrosive and digestive action of the gastric secretion. Mayo has said "Only within the neutralizing field of the duodenum, can an ulcer occur." Other writers have made expressions as this—"Ulcers occur only where gastric juice flows", while still another states that "The healing of ulcers is retarded by the digestive and corrosive action of the gastric juice." Virchow, in 1855, pointed to the role played by the very small blood-vessels supplying the gastric mucosa, which later by experimental and pathological evidence, gave us a sound factor in embolism and thrombosis from some source or other as a fundamental cause of local necrosis.

Toxic substances of various kinds both extraneous and metabolic, as demonstrated by Reh-fus and Bolton, are productive of ulcer. Bolton maintaining that, "It is merely necessary for gastric cells to be damaged to certain extent, to allow digestive action by the gastric juice."

A frequently observed duodenal ulceration subsequent to extensive burns of the body surface, is a very probable toxic demonstration.

The bacterial origin of this disease is of more recent date, and is rapidly gaining favor, as our more exact knowledge of infection progresses. One of the pioneers in this field was Lebert, who, as early as 1857, injected pus into the veins of animals and produced acute gastric ulcers. Drs. Billings and Rosenau, have within the past twelve years, by intensive experimentation, been able to produce gastric and duodenal ulcers in animals by intravenous injections of streptococci, having certain grades of virulence which exhibited a special affinity for the gastric and duodenal mucosæ.

Other research workers have shown that dyes injected into the appendix, travel rapidly by way

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of the lymphatica to the gall-bladder and stomach, so why not bacteria and their toxins. From this we may assume that subacute or chronic appendicitis should be considered an etiological factor in ulcer production, which assumption is based upon the infection theory.

So far such experimental ulcers have been of the acute form and the type of chronic ulcer is as yet not fully explained, except it be on our present knowledge of lowered resistance and pathological tissue changes, mostly circulatory and due to infective embolic and round cell infiltration, such ulcers being constantly subjected to the digestive and corrosive action of the gastric juice which further tends toward their chronicity.

PATHOLOGICAL ANATOMY

Seventy-five per cent of the gastric ulcers are within the pyloric portion of the stomach, and on the posterior wall, which also corresponds to the most frequent location of gastric carcinoma, a fact which should stimulate thought. Duodenal ulcers are always in the "neutralizing zone", extending, as a rule, no farther than one and three-quarter inches from the pylorus, and also are they most frequently situated on the posterior wall. When found at a wider distance from the pylorus, a diverticulitis of the duodenum is present. Their number is frequently single, but more frequently than is clinically demonstrated, are they multiple and acute. Their size varies from one centimeter to several inches in diameter, their edges varying from thin and ragged in the acute forms to the hard, cartilaginous ring of the chronic stages—their shape is not constant, and small irregular abrasions to large oval indurated lesions are formed—their depth seems to be a fair guide to their chronicity, involving respectively, mucosal, submucosal, muscular and peritoneal tissues, while in the latter instance, more pathology is demonstrable in the form of adhesions to adjacent viscera, as the pancreas, spleen, liver, gall-bladder, small or large intestines and omentum, and if perforation has taken place, there may be fistulous tracts existing between stomach and other hollow viscera.

The frequent pathology of the complications such as muscular hypertrophy, pyloric stenosis, hour-glass contracture, either spastic or due to cicatrization, and dilatation with acute atony, is too extensive for detailed description in this paper.

The tissue forming the base is similar to most ulcer bases, except that it shows more corrosive degeneration than is found in surface ulcers and microscopic analysis of the base and edges reveals many cells of the embryonic type. This again

causes us to think of the possible relationship of cancer.

SYMPTOMATOLOGY

The symptoms and general clinical picture of all cases of peptic ulcer varies. An ulcer may run its course, and undergo healing by cicatrization or be discovered at autopsy, without ever having produced any definite symptoms, or it may have been latent for a long time when suddenly symptoms of perforation or hemorrhage lead us to the diagnosis, or a symptom-complex of so-called "indigestion" existing for months or years before the more classical symptoms of pain, tenderness, hyperchlorhydria, vomiting and hemorrhage appear.

The appetite is usually good unless fearful of the routine pain after eating. The bowels are often slightly constipated. There is a loss of weight in about one-half of the cases, usually those of long standing, probably due to vomiting, self-limitation of diet, or actual hemorrhage not bordering on cachexia.

The pain is the most constant symptom, located in the epigastrium, sometimes radiating to the back or side, and bearing a definite relation to meals, described as aching, sharp and cutting, dull or burning in character. The interval after meals varies from one-half to three or four hours and depends somewhat upon the character of the food eaten and the site of the ulcer. The onset of pain in cases of duodenal ulcer is usually longer after meals than in the case of gastric ulcer, and is often at its height an hour or so before meals, and has been known as the hunger-pain.

The relief of pain by certain bland foods, milk, or soda, or vomiting is often noted. Other cases complain of severe pain after the evening meal or during the night. The cause of the pain is generally thought to be the irritation of the gastric juice upon the nerves in the denuded area, combined perhaps with a certain degree of muscular spasm.

Vomiting is present in some of the cases, and often affords great relief, often occurring at night and usually denotes hypersecretion and retention.

Actual hematamesis or melena occurs in a small percentage of all cases, and sometimes is the immediate cause of death. Chronic ulcers bleed very little except in case of erosion of a large vessel.

Physical examination may bring about the other symptoms, as local tenderness in epigastrium or to the right of it, slight muscular rigidity, and rarely, peristaltic waves may be noted, after palpating the abdomen.

DIAGNOSIS

A diagnosis may for convenience be outlined and carried out along the following procedures:

1. A thorough history.
2. Subjective and objective symptoms.
3. A thorough physical examination.
4. Laboratory examinations—
 - (a) Of the stomach contents before and after a meal.
 - (b) Of the stools after four or five days on a meat free diet.
 - (c) Of the blood.
 - (d) By fluoroscope on taking of a barium meal, and
 - (e) By plates taken at intervals to bring out the finer points of significance, which might have a bearing on the case.

The history is the most essential means of starting a diagnosis. It should be carefully elicited, not biased by any thought, either for or against ulcer, and should serve as a background for the physical examination, bearing in mind, that gastritis, achylia gastrica, gastralgia, hyperchlorhydria, hypersecretion, gastropotosis, nervous dyspepsia, and chronic indigestion are pitfalls, or serve only as screens behind which we hide our indolence or negligence.

Many other bodily disfunctions manifest their symptoms by way of the stomach and as someone has aptly said, "The stomach is a megaphone for the abdomen." Such disorders as painful colonic contractions, disease of the gall-bladder or appendix, hepatic and renal disease, have symptoms relative to the stomach. Outside of the abdomen we have cerebral, cardiac and circulatory disorders causing stomach symptoms, whereas the only pathologic conditions of the stomach itself are ulcer, cancer, and occasionally lues, all others being foreign to it.

Physical examination will probably reveal some apparent anemia, slight emaciation, sometimes foci of chronic infection, local tenderness and slight rigidity of the upper abdomen, and very rarely do we note peristaltic waves. A rectal examination should always be made.

Blood examination may give us a low hemoglobin reading and a moderate decrease in number of red cells, but a negative blood examination does not rule out ulcer, as it requires some time for the blood picture to become suggestive, even after a brisk hemorrhage, and unless a chronic ulcer bleeds frequently, the degree of anemia is not great.

The analysis of the fasting stomach contents is very important, as a large volume of acid contents consisting at times of food eaten a day or two previous is certainly significant of retention.

The analysis after an Ewald meal may show nothing more than a hyperchlorhydria. If there is a constant finding of blood, on repeated washings, cancer is very probable, and this should always be kept in mind when dealing with ulcer.

Analysis of stools for occult blood may aid in the diagnosis, but when found it must be certain that its presence is not due to other lesions in the gastrointestinal tract. Melena is more suggestive but also more rare.

The fluoroscopic and x-ray examination are highly helpful, but when seemingly negative, they should not be interpreted as final, and should not leave the impression that no ulcer exists, when the clinical history and physical findings are strongly positive, as "Unquestionably, many of the cases that are diagnosed and treated successfully as hyperchlorhydria, are in reality cases of uncomplicated gastric ulcer." (Sippy.)

Watching the act of deglutition and the entrance of, and filling of the stomach by the Barium meal, often reveals interesting and very important facts. We may observe the position and size of the organ, the presence or absence of motility, watching for such deformities as incisuræ, usually of the greater curvature, hour-glass contracture, and perhaps fistulous tracts leading toward other structures.

The condition of the pyloric antrum and pyloric muscle, whether it be apastic, causing retention and reverse peristalsis, or normally relaxing and contracting. The entrance of the Barium into the duodenum showing the outline of this organ, studying the outline of the cap, and noting any diverticuli or other deformities, all these can be seen or ruled out in a few minutes time. The study of the intestinal tract in its entirety should not be omitted at this time, and pictures at stated intervals are the rule, as often a bowel disfunction is present, which will throw light upon the case. The procedure just mentioned is not of much value in the acute forms of ulcer, in which stage of the disease the history and physical findings may be our only and best means of diagnosis.

As has been previously mentioned, "The stomach being a megaphone for many organs", a differential diagnosis is not always easy. Using the well elicited history, and the facts brought out by the thorough physical examination as a working foundation, we find many diseases or disorders causing abdominal symptoms, some of which are—cerebral lesions that cause vomiting and other stomach manifestations—cardiac lesions with their train of symptoms referable to the stomach, often diagnosed as "acute indigestion". Patients in the third stage of lues, pre-

senting the symptoms of gastric crises and the onset of acute infections causing stomach disfunction.

Directing our attention to the disfunction or disease of organs below the diaphragm, which may cause some confusion, we find—acute or chronic hepatitis, associated with gall-bladder disease, a frequent cause of chronic indigestion.

A cholecystitis with the usual pancreatitis manifesting their symptoms by way of the stomach.

Chronic constipation and painful colonic contractions—chronic or subacute appendicitis—and ovarian or uterine disorders in the female. Cases of chronic nephritis with vascular hypertension almost invariably suffer from indigestion.

Therefore, remembering that practically speaking, ulcer, cancer and lues being the only pathological conditions within the stomach, it remains for us to analyze the patient's symptoms very thoroughly, and make our diagnosis by deductions.

THE DIAGNOSIS OF COMPLICATIONS OF GASTRIC ULCER

Many times the symptoms and physical findings of the complications will lead to the diagnosis of ulcer as the original disease.

One of the most frequent complications is pyloric obstruction with its compensatory hypertrophy of the stomach musculature sufficient to empty itself, and producing peristaltic waves, or, a lack of sufficient hypertrophy with consequent dilation, retention, reverse peristalsis and vomiting. The retention is suggested by finding food eaten many hours before aspiration, in a large volume of acid secretion, sarcinae, organic acids and even blood being present at times.

The term low grade obstructions is applied to cases which do not empty entirely before the next meal, but are empty after the fast of the night, while high grade obstruction is known by frequent vomiting, visible peristaltic waves, anorexia and the subsequent evacuation of large quantities of material after a fast of eighteen or twenty-four hours. Such cases often have an additional complication of hypersecretion in which almost pure gastric juice is poured into the stomach in great quantities, causing pyloric spasm, and increasing the retention, thus producing a vicious circle, sometimes leading to dehydration and death of the individual if not promptly relieved.

Perigastric inflammatory lesions such as adhesions and abscesses are not always diagnosed when present, especially the former, as the symptoms of adhesions are not always of sufficient intensity to produce noticeable sensations on the

part of the patient, and cannot always be demonstrated on physical examination. However, painful respiratory movements, or pain on changing positions might suggest the presence of adhesions. As for abscess, the picture is somewhat different and generally more clear, then we find severe pain, a septic temperature, perhaps chills, a leucocytosis, a limited excursion of the diaphragm and shallow respirations, and very rarely a palpable mass. Gastric ulcer is the most common cause of subdiaphragmatic abscess.

Hour-glass contracture is a complication in only a small percentage of cases, and should be suspected when vomiting occurs, during or immediately after meals or on unusual fullness, and distress after eating is noticed by the patient. Pain and peristaltic waves are not present in such a case nor at this time.

The difficulties of diagnosing hour-glass or other contractures of the stomach have been largely eliminated by the use of the roentgen ray, but when shown to be present, it must be determined whether they are due to pure muscular spasm, or to pathologic tissue changes in the stomach wall.

Perforation complicating ulcer is usually acute, and presents a more or less distinct picture. Authorities vary as to its frequency as we have figures ranging from 2 per cent to 7 per cent of all ulcer cases.

A slow perforation occurs at times following a perigastritis, and causes a localized peritonitis, most often in the lesser cavity and toward the spleen.

Perforation is the most serious complication of gastric ulcer, considering its frequency and consequences and always occurring at the height of digestion. The pain is most acute and excruciating, sudden, sharp, and usually localized to the upper abdomen at first, later becoming diffuse, and accompanied by generalized rigidity of the abdominal muscles, with a weak thready pulse, vomiting, prostration and all other symptoms of shock, soon followed by those of peritonitis.

SECONDARY CARCINOMATOUS COMPLICATIONS

That carcinoma is prone to develop upon ulcer sites has been proven to the satisfaction of many observers. Serial sections of an entire ulcer have shown that the cell formation is distinctly abnormal and classed as embryonic. Undoubted cases have demonstrated malignancy many times.

The symptoms suggesting the possibility of cancer are, distress not conforming to that of ulcer, a more constant finding of blood in the stomach contents, lack of response after two or three weeks of medical treatment, evidence of persist-

ent obstruction, and occasionally metastatic glands in the rectum and clavicular region. The patient having a malignancy has, in the later stages, physical signs strongly suggestive, but it should be kept constantly in mind that if we are to decrease the mortality rate of carcinoma, its diagnosis must be made before symptoms become apparent, in other words we must look for physical and clinical evidence.

The x-ray will aid greatly in a differential diagnosis at times, but again we must remember that without other significant, corroborative findings, there are very few conditions in which the x-ray diagnosis is not subject to limitation and exceptions, and no where more so than in the early diagnosis of gastric carcinoma. So we believe that when any suspicious shadow or sign relates to a doubt, laparotomy should be performed to clear the diagnosis.

TREATMENT

Before instituting any method of treatment, one should very carefully study the conditions existing in the individual case at hand, attempting to note any complications of ulcer, becoming acquainted with the individual's habits, mode of living, means of earning a living, considering the length of time ulcer symptoms have been present, and the willingness and ability of the patient to carry out the regime as may be outlined by the physician, for without due interest, serious intention and strict cooperation on the part of the patient, failure to cure is almost a certainty.

The medical treatment seems to be the one most frequently instituted, and should, in the vast majority of cases, be given a thorough trial.

The Sippy technique is the treatment most generally used as a foundation, with such variations as may become necessary, due to individual idiosyncrasies.

Rest, for the patient and his stomach is of prime importance, and second, the control of excessive acidity, thereby allowing nature to heal the ulcer, as it would on the body surface. Controlling the motility and acidity, prevents the digestive action of the gastric juice, hence granulation and cicatrization naturally ensue.

Frequent small feedings have much to do in controlling hyperacidity and promoting strength and a gain in weight. At first it may be wise to keep all food out of the stomach for a few days, substituting the rectal route, later to be followed by the hourly ingestion of a three ounce mixture of milk and cream in equal parts, and sufficient doses of alkalies to keep the acidity at zero. Such a routine will start many patients on the road to recovery, provided no hindering com-

plications exist, and if such do exist they will become manifest in a few days of careful observation.

As the case progresses, pain and spasm becoming less noticeable, the diet may be more generous, including vegetable puree, thin soups, well cooked cereals, strained gruels, and custards carefully eliminating any coarse articles of food apt to be mostly cellulose.

After a time in bed, and the progress permitting, ambulatory treatment is begun, and by directing the individual and helping him plan his daily and often nightly program, they do very well, provided no complications exist. The milk and cream may be carried in a pocket flask or a thermos bottle. A lunch kit containing crackers, cup-custards, cereals, and other bland foods, is a convenience, and may be used between the regular meal times.

The alkalies such as sodium bicarbonate, calcium carbonate, and heavy calcined magnesia, are to be used in doses and combinations which suit the case. Calcium carbonate and calcined magnesia have two or three times more neutralizing power than soda. The untoward effects upon the intestinal tract from the ingestion of so much powder may be controlled by changing from magnesium to calcium carbonate in event of diarrhea, or vice versa in constipation, or it may be well to discontinue all drugs for a period of from two to four days. The use of bismuth subnitrate and bismuth subcarbonate is recommended, by many, and can be conveniently combined with any or all of the afore-mentioned drugs.

Even in the obstructive type of ulcer pathology, after a week or two weeks in bed, under careful management and strict observation, rectal feeding, and stomach lavage with medication directed toward the decrease of acidity and muscular spasm, the obstruction may be overcome and the case go on with the further medical regime to eventual recovery. During the management of such cases, showing obstruction, the observance, and lavage, may lead us to a definite diagnosis as to cancer, and will also aid in determining the degree of acidity when only an ulcer exists.

Any case not benefited by properly instituted medical treatment after a trial of two weeks should be looked upon with suspicion and is sufficient reason for urging laparotomy, as therein lies our only hope of getting at a carcinoma when it can be removed with a fair prospect of a cure.

SURGICAL TREATMENT

Operative treatment is indicated in cases in which:

- (1) Despite medical efforts the symptoms of

ulcer continue to cause distress or interfere with the patient's efficiency.

(2) Perforation occurs.

(3) Signs of food stagnation, dilation, hour-glass contracture, or extensive adhesions supervene.

(4) Hemorrhage, as manifest by constantly finding occult blood in the stools and intractable anemia persisting.

(5) Subdiaphragmatic abscess is present.

(6) Any, even though slight, suggestion or evidence of malignancy appear.

While most cases of gastric ulcer may be cured by medical treatment, there is always some doubt as to the cure, even though the ulcer ceases to cause any symptoms, from a surgical standpoint, and in view of the fact that we have evidence that about 75 per cent of stomach cancers develop in the beds of old ulcers, it is apparently justifiable to operate most cases of ulcer. (Warbasse.)

A swollen, edematous ulcer near the pylorus should not be mistaken however, at a glance, for carcinoma, as ulcers produce extensive pathology of their own.

The fact remains that ulcer cases coming to operation present real surgical problems as they are often long deferred, and sound surgical judgment is often taxed to the utmost.

Excision of the ulcer-bearing area is the operation of choice, especially when in the pyloric region. A pyloroplasty or gastroenterostomy depending for its indication upon the condition of the pyloric antrum, and the perigastric pathology present.

Some surgeons have had very good results by gastroenterostomy alone, claiming about 80 per cent of recoveries (W. J. Mayo), but excision when possible, and cauterization at times where excision is more difficult, are to be employed almost routinely. All major surgical procedures should be preceded by any minor operations necessary to eliminate foci of infection whenever present, and should be followed by a well regulated medical program.

The complications of ulcer are in the majority of instances surgical, but time and space do not permit of further details as may concern the procedures indicated in each.

In closing we may briefly state—that: In all cases presenting symptoms referable to the stomach, a thorough physical examination should not be omitted, as therein lies our only hope of making an early diagnosis.

Remembering that ulcer and cancer, practically speaking, are the only pathological lesions exist-

ing in the stomach, except an occasional secondary gastric lues.

That the treatment, whether medical or surgical, depends upon all the facts pertaining to the individual case,

Whenever there remains a shadow of doubt as to the exact diagnosis, or the efficiency of medical treatment, laparotomy should be strongly urged.

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TREATMENT OF PULMONARY TUBERCULOSIS*

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Air, food and rest continue to be the three essentials in the treatment of pulmonary tuberculosis, but to these three we are now adding a fourth, which is scarcely less essential, and this is sunlight, which for hundreds, if not thousands of years, was relied upon as the one important remedy for this disease and which then was abandoned almost wholly for another thousand years.

We must in the treatment of pulmonary tuberculosis, divide our patients as accurately as possible into two classes, the advanced, and the hopeful cases. For the first class there is no treatment except that which contributes to their comfort and convenience and with a view to their isolation from others who may be susceptible to their disease. To apply to these patients the fresh air regime in winter, and other details which are held to be essential in hopeful cases, is nothing short of cruelty. Only those things should be considered which contribute to their easy descent into the grave.

A continuous supply of fresh air is necessary for the proper management of hopeful cases of

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tuberculosis. This does not necessarily mean the tearing out of the side of the house in winter, as we have been inclined to do, but to have rooms thoroughly ventilated at all times for these patients. The extremes to which we have gone in this direction are not accompanied with results which warrant them.

Food has been overdone. Formerly we fed these patients six times a day and ruined what little appetite they had without any gain to them. Also the milk and eggs we forced into them have no specific properties in the treatment of this disease. We are coming more and more to a well balanced, sensible dietary for these patients consisting of good wholesome food, and such as is enjoyed by those in health.

While we have gone to extremes in relation to food and air, we have not gone far enough with rest. The one crime in the home treatment of pulmonary tuberculosis is the lack of rest which these patients have in the average home. They do not rest. They are dressed and about almost the entire day and are hastening the progress of their disease beyond the point from which cure is possible.

Where there is any evidence whatever of activity, whether indicated by increased heart rate, increase of temperature, or by any other evidence pointing to a departure from the normal, rest in bed is absolutely essential to recovery. And this must be prolonged for weeks if not for months, if recovery is to be assured.

I desire now to discuss at some length the fourth of these essentials for recovery from this disease.

SUNLIGHT IN THE TREATMENT OF TUBERCULOSIS

The favorite method of treating tuberculosis by the earliest practitioners of the healing art was by the application of the sun's rays to the nude body for prolonged periods of time. The centuries during which this method prevailed are sufficient evidence that effective results were thus obtained. The sun worshipers therefore had more than a mythical reason for their gratitude toward the great Sun God who had touched their afflicted bodies and had made them whole.

We are now finding, more and more, that with all our wisdom and learning, with all the progress we have made in knowledge of specific causation and in the prevention of tuberculosis, that the early and empiric methods of treatment of this disease held much of value to which we must return.

It is doubtful if any therapeutic measure at our command in the treatment of tuberculosis exceeds in value the use of sunlight; and yet sun-

light was the one accepted remedy for this disease many centuries ago. It fell into disuse and was almost forgotten but is now coming back and is taking a place in the front rank in the treatment of this disease.

No sanatorium for the treatment of tuberculosis is now without its sun room and sun porches and, while these may be used in some places largely for their psychic effect, more sunshine is actually applied in the treatment of these cases than for hundreds of years before.

While the methods of Rollier of Leysin, Switzerland, have been most loudly proclaimed, it is neither necessary to go to some far off land nor to climb some mountain high in order to get results. Wherever the sun runs his daily course and wherever provision has been made to bring these patients into contact with the sunlight, results which approach those at Leysin are to be obtained.

It was something more than thirty years ago that my attention was drawn to the effect of sunlight upon external tuberculosis-lupus of the skin. I then chanced to have a few cases of this disease under observation and I applied strongly concentrated sunlight to them by means of an ordinary hand lens and was much gratified to see how quickly they responded to the treatment. These results were obtained from the bactericidal and physical effects of sunlight. The question then arose, "Why not apply as strong a light as possible to the lungs upon the same theory of reasoning?"

Since ordinary sunlight falling upon the surface of the body penetrates deeply into the body, if not entirely through it, sunlight upon the nude body exercises a marked effect upon it. The penetration of even a feeble light, as the light of an ordinary incandescent lamp held tightly enclosed within the two hands, is shown by the bright illumination of the lamp which is readily seen through the entire thickness of the hands. Sunlight of course penetrates much more deeply.

A few years ago I made a series of experiments in which I placed small pieces of sensitized photographic plate within the mouth and, by exposing the cheek to the sunlight for a second, the plate was deeply blackened by the light which had passed through the tissues of the cheek.

From these experiments it was easily to be deduced that a light might be produced that was sufficiently strong to penetrate deeply into, if not entirely through the thickness of the body; also, that if ordinary sunlight falling upon the surface of the body was beneficial in tuberculosis, then a more powerful light would more promptly effect results.

These deductions have been followed to their conclusions with very satisfactory results. It is true that for a considerable time I was compelled to proceed cautiously because of adverse criticism from members of my own profession; but in time others took up the work which had been begun and now the methods of light are numerous, some good and some bad, while I still adhere to the belief that there is no light that can in any way compare with the rays of the sun in the treatment of this disease.

In the application of sunlight to the treatment of pulmonary tuberculosis, two different methods are used. In the cases which are running some temperature, and which are confined to their beds, the sunshine is permitted to fall directly upon the nude bodies of the patients for varying intervals of time. At first, not more than five minutes exposure is permitted, but the time is very gradually extended until half an hour or more is given. When temperatures react, the exposures are lessened in frequency and in duration, and where contraindications exist, they are wholly withdrawn. In cases that are far advanced, no form of treatment has yet proven to be of any avail.

It has generally been our rule not to use the sunlight when temperatures were being run, but we now pay less attention to this unless the temperature reaction is marked, when the light is discontinued until the temperatures are reduced by means of rest.

In early cases of tuberculosis we use the sunlight in the strongest form that it can be used. Here, the sun's rays are concentrated by a large reflector composed of one hundred separate mirrors, each six inches square, the reflection from each mirror falling upon the same spot at a point twenty feet in front of the compound mirror. This light is most intense and is accompanied with a corresponding heat, but the heat rays are taken out by means of violet colored strips of glass. In this manner only the violet rays are used and these are comparatively cold and may comfortably be borne.

With these strongly condensed violet rays we are readily able to reproduce photographic prints with the light which has passed entirely through the body. Nor is this at all wonderful after our knowledge of the other rays which traverse opaque bodies, and of the waves which pierce iron walls reproducing musical notes or the human voice from a thousand miles away.

The value of these experiments lies in the

proof that we are able to reach the deep structures of the body with therapeutic rays of sunlight.

The objection is made that the glass does not permit the passage of the ultra violet rays; and while this is true, it is likewise true that the other rays are healing in their action, though perhaps in less degree, as we have abundantly been able to prove by results we have obtained. However, we are now constructing a mirror, using nickel plated metal for our reflecting surface and without the use of any intervening glass whatever. Whether better results may thus be obtained time alone can tell.

It is certain, we who are developing the uses of light, have not done our full duty toward this class of our patients until we have determined all the possibilities which lie in this long neglected agent of therapy.

While light acts bactericidally in tuberculosis, this is not its only effect upon the human organism. The light causes an immediate determination of blood to the parts, the vessels become engorged with blood, and if continued for a brief period of time upon open wounds, the capillaries burst and blood oozes down over the parts. This increased determination of blood hastens reparative action and open wounds heal rapidly under its action.

The same engorgement undoubtedly comes when light is strongly applied to the pulmonary organs and similar results are obtained though in less degree.

Under the use of the sun's rays pigmentation of the skin takes place, the skin becoming dark brown in color and the percentage of hemoglobin is also increased.

The results of all investigators in this field of therapy are confirmatory of the views held ages ago, that sunlight is a remedy of the highest value in the treatment of tuberculosis.

This remedy has too long been neglected.

There is no greater opportunity that offers for some friend of man, some real philanthropist, to lend a helping hand, than that which offers in the establishment of a real Light Institute for the determination of all the possibilities of light in the treatment of disease. Its possibilities in tuberculosis are great indeed; in rickets, sunlight stands first as a remedy; while in cancer, there are many reasons for the belief that light in some of its many forms may yet prove to be the solution to this problem.

At any rate the effort is worth the making.

TREATMENT OF SYPHILIS*

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The treatment of syphilis is a very old subject for discussion and yet one of such fundamental importance that repetition can do no harm. In the presentation of this paper, I do not mean to say that the system used must be followed absolutely nor do I mean to go into every detail. I mean to give a brief system by means of which the entire treatment may be satisfactorily carried out.

In the treatment of syphilis, various drugs have been employed but the three now universally adopted are salvarsan, mercury and potassium iodide. The last two have been in use for centuries but the former only since its discovery in 1910.

In this paper, I am going to limit myself to the treatment of primary and secondary syphilis, the stages that are seen most commonly in the practice of the urologist.

In the first place the importance of early diagnosis cannot be over-emphasized because the possibility of ultimate cure is unquestionably increased if the condition can be recognized in the primary stage before the Wassermann becomes positive. To this end, a dark field examination should be made on every ulcerating genital lesion. In the second place, the importance of the absolute establishment of the diagnosis before the institution of treatment also cannot be over-emphasized. If treatment is started largely on the probability of the diagnosis but without the diagnosis having been actually established, then infinite harm may be done for such may mask the subsequent course so that it may take years to actually prove that the patient did or did not have syphilis. I feel sure in saying that no one wants to be considered syphilitic without actually having the disease. In the third place, the treatment must be carried out over a long period of time—at least three years. Quite probably certain cases are cured in less than three years but unfortunately we have no means of proving the cure. Whereas the diagnosis is as a rule not difficult the proof of the cure is another matter and therefore to be safe it is best to carry out the treatment in all cases over a long period of time. In the fourth place, the regularity of the treatment must be maintained. It is of but little value to treat a month and then neglect everything for six months. The treatment must be pushed vigorously, systematically and at regular intervals.

When the diagnosis has been unquestionably established, the three year plan of treatment should be outlined, preferably in the presence of the patient. It should be explained to the patient so that he may realize once and for all the serious nature of the condition and he should be supplied with a copy of the treatment outline not only for his reference but also so that he may cooperate to a greater extent with the doctor in the regularity of the treatment. According to the state law, governing venereals, the case should be reported as soon as the diagnosis is made. This need not involve the patient in any way unless he becomes neglectful of the treatment or refuses to take any further treatment. In the event of such an unwelcome circumstance, the matter may then be referred to the proper authorities and the patient forced to take the treatment. As a further matter for consideration in the primary and secondary stages, if possible the patient should be isolated as long as he is grossly infectious or until the lesions are healed. This is not always practicable or possible, but at least the patient should be distinctly told the nature of the condition, that he is highly infectious to others and that he must be very careful in his association and relation with other people.

As to the treatment proper, there are several general rules that should be kept in mind. These I shall enumerate as briefly as possible: (1) aim to give salvarsan three times the first year, twice the second year and once the third year, giving eight to twelve doses for the first course and four for each subsequent course. Give it twice a week for the first eight doses and thereafter once a week in all subsequent courses. It is given intravenously and small dosage is the rule, it being best to start out with a small dose and never give over 0.6 gm. at any time. (2) Start giving mercury when the treatment is first started or in other words give it while the patient is being given salvarsan, it probably being best to give it on a different day however. Mercury is best given by one of two methods, either rubs or by intramuscular injections. If the former instruct the patient to rub forty minutes a day, six days a week and three weeks a month for three months. If the latter, give one injection a week deep into the buttock muscles alternating sides. Explain the signs and symptoms of mercury-overdose to the patient and instruct him to report if such should develop. (3) During the third year, add potassium iodide to the treatment and prescribe it three times a day, six days a week and three weeks a month for three months at a time. This is the easiest way but if possible it should be given by increasing dosage to the point of satura-

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tion. Potassium iodide is given at the same time that the patient is being given mercury. (4) Allow one month rest periods the first year, two the second, and three months the third year. (5) At the beginning and end of each course of treatment take a Wassermann. If it remains negative, pursue the outlined course of treatment. If the Wassermann should become positive, however, the subsequent treatment must be altered as seems necessary at the time. At the completion of the three years, take a Wassermann, do a spinal puncture, and look the patient over in general for any possible evidence of the disease. During the next two years, a Wassermann should be taken every six months. Further, one should be taken now and then as long as the patient lives, certainly if any untoward symptoms should develop. (6) Each course of treatment extends over a period of three months. (7) Prepare the patient for salvarsan administration by purgation the day preceding treatment and by omitting the preceding and succeeding meals. Have the patient lying down flat when treated and at least for one-half hour afterward, preferably for several hours. Examine the urine the day of treatment and if possible the day afterward also, looking especially for albumin, casts, and blood. In the event that such are found, it is best to omit salvarsan until such have disappeared and then to proceed more cautiously thereafter. The patient needs no preparation for mercury treatment. (8) It may be well to provide a mouth wash and encourage routine use of the tooth-brush at least during the first year of the treatment.

In connection with the treatment of syphilis, I would like to add three other features, namely, prophylaxis, following up the case and determination of the source of infection.

In the male, prophylaxis consists of careful cleansing of the entire external genitalia with soap and water, the installation of some standard urethral antiseptic, and the application of 40 per cent calomel ointment to the entire external genitalia. This covers complete venereal prophylaxis and should be carried out as soon as possible after exposure. If used within the first hour, it should carry a 90 per cent efficiency but if not used within twelve hours it is useless.

It is very important that the case should be followed up. These patients are very prone to neglect their treatment soon after the lesions have been cleared up. If they are followed closely and reminded concerning the time to report for treatment it is surprising to note how much more satisfactorily the full course of treatment can be carried out. The treatment outline and social service are of considerable help in following the

case as both can be used to aid in keeping in touch with the patient. If the patient is moving to another locality at some distance, it is well to have a conference and refer him to some physician there. The idea is that all these things tend to bring about the more successful completion of the full three years' treatment, which of course is the main object.

If possible the original source of infection should be determined. This is usually the most difficult proposition in the treatment of syphilis as the patients seem prone to remain silent on this point. However, if the source can be obtained, the name may be turned in to the U. S. P. H. authorities, the individual examined and if found infected put under treatment. Neither the patient nor his doctor need be mentioned in this connection in any way, so that in reality there is no ground for the false modesty or false honor manifested by the patients as a rule.

These three latter features, namely, prophylaxis, following up the case and determination of the source of infection are of inestimable importance as they unquestionably tend toward minimizing the prevalence of the disease which as is readily observed is a very desirable result.

In conclusion, I wish to emphasize five points in particular in the treatment of syphilis, namely: (1) early diagnosis; (2) absolute establishment of the diagnosis; (3) long continuation of the treatment; (4) regularity of the treatment, and (5) it is best to depend upon mercury rather than salvarsan for the end-result.

PROBLEMS IN DIAGNOSIS*

C. M. WRAY, M.D., Iowa Falls

I realize now that my subject was not well chosen. It is entirely too comprehensive. Just what I had in mind was to attempt to present some of the more common problems that come to all of us in our every day work, especially those involving the necessity of operation. To operate or not to operate, there's the rub.

We all know, and will freely admit, there are many patients in which the problem remains unsolved after we have exhausted all reasonable means at hand. In this class of cases we will also agree that it is better to err by making an occasional unnecessary exploration, than to overlook a surgical emergency.

There still remains in our profession some who put the dollar sign, or the desire to perform a great number of operations, or some other equally

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vicious reason above the strict indication for operation.

Concerning these I can only say like the little Hibernian at a ball game in my home town when the home team needed one run to win, two men on, two men out, and two strikes on the batter. The batter let the next one float past for the third out. My friend exclaimed, "I absolutely cannot express my disgust."

Then again, there is the class of cases, far too large in my opinion, where we make snap-shot diagnoses and advise surgical procedure without proper amount of effort to solve the problem.

To get the question before the house, let us then take up the old problem of appendicitis for the reason that the appendix is more often made the goat than any other organ. We feel we can at least remove this organ and promise some measure of relief.

Let us not consider for the present those cases where it is a question of exact diagnosis as to the lesion present in the so-called surgically acute abdomen. We all meet these cases and often are compelled to operate, knowing we have not made a diagnosis. I would make a plea however, that there is usually time for a more painstaking history taking and examination than so many of these patients get.

Dr. John H. Gibbon of Philadelphia said in an article in the Iowa Journal of January 10, 1924, that only in case of severe hemorrhage and obstruction of the air passages is it absolutely necessary to rush into an operation.

It is the following type of patient with which I am particularly concerned today. One that comes with a more or less vague history, some pain, some tenderness, some temperature, perhaps some increase in white cell count. Just one of those with everything a little hazy. Far too many of these are operated only to find that later they are not relieved of their complaint. There may be many reasons for these errors and the undue haste to operate.

To illustrate one reason let me say that at a meeting of this Society some years ago a quite well known orthopedic surgeon from a neighboring state, in outlining what in his judgment was proper treatment for a certain condition stated that he would prefer delaying the operative procedure until a certain age and formerly did so, but now he found that if he did not proceed at once some one else would do so.

I submit to you that it is a sign affairs have taken a dangerous trend, when a man of more than state-wide reputation feels compelled to warp his judgment and sear his conscience in such a manner.

What then are some of the conditions in which we so often make these mistakes? Genitourinary lesions. Pyelitis simple or with involvement of the kidney. Stone in ureter or kidney. Stricture of ureter or kinking of ureter. Vesciculitis, prostatitis.

Within past thirty days I heard a well known urologist make the statement that in 80 per cent of the cases coming to him with lesions in organs pertaining to his special field, there had been one or more operations without relief from symptoms. Such operations as removal of appendix, removal of gall-bladder, plastic pelvic work, etc. He was charitable enough to say that no doubt in many of the cases there had been pathology to warrant the operation, but you and I know that in many of the cases it was a case of mistaken diagnosis, and in all too many a lack of proper study of the history and failure to make complete examinations.

Another group of cases that comes to my mind, is that long list of unfortunates with ptosis of this that or the other organ, or all of the abdominal organs. The number of these who have undergone surgical treatment without relief I leave to your imagination. I am only making the plea again that we be more careful and honestly try to avoid mistakes in the future.

Conditions above the diaphragm. The common ones where errors occur being pneumonia and pleurisy, especially in children. Many laparotomies have been done in the past when the real trouble was above the diaphragm, but I am sure these errors are far less numerous now than in the not far remote past.

What shall be said of the large number of cases where the lesion is in the upper abdomen? Often the lesion here is a surgical condition and the error is not so detrimental to the welfare of the patient. We formerly spoke of the three lesions, ulcer, gall-bladder disease, and appendicitis as a three-legged stool upon which to place our diagnosis, which calls to my mind the story told of Andrew Carnegie. Some one asked him which he considered the most important element necessary to success, learning, money or work. The canny Scot replied, "Which is the most important leg of a three-legged stool?" We have now a fourth leg, pancreatic disease. Many times our failure to secure relief of symptoms following removal of an appendix, gall-bladder or some work of this kind is because of an existing pancreatic disease. At the meeting of the A. M. A. last month Dr. Anthony Bassler of New York, presented a method of testing the functioning of the pancreas and if I understood him correctly, he was able to demonstrate in cases operated upon for supposed gall-bladder disease and in

which no relief from symptoms followed, a perversion of the pancreatic activity. Certainly very interesting and let us hope it may develop in practical clinical value.

I have not exhausted the list of conditions often overlooked or mistaken for appendicitis. It was not my intention to do so, I merely wished to enumerate a few of the more common ones.

One other condition aside from these I wish to mention, one in which I feel we should increase our watchfulness to avoid unnecessary operations, viz., malignant cases. So many hopeless cases are sent to the operating table only to give surgery a bad reputation and prevent some case from going early.

Just a brief illustration of each class of case I have attempted to picture to your minds.

First—Where all reasonable means have been tried and yet the diagnosis is not positive.

Mr. S., age fifty, long history of ill feeling, never down sick in bed. Doctored for long time for stomach trouble, etc. Went through a large clinic. Was told that he should have an exploratory incision. His wife insisted that she be told just what the lesion was and what was to be done before he should submit. This could not be done. Later, at operation, a distinctly deceased appendix and gall-bladder was removed, and now six years later, he is perfectly well, even is trying to persuade his wife to undergo an operation for removal of gall-stones but she is still the same positive helpmate as of yore and will not consent although in her case the diagnosis is plain.

Second—Where operation is done upon some vicious indication.

Man thirty-five, locomotor ataxia. During 1923 paid a disciple of Abrams \$300 for treatment. Is no better. About the same time a man of about same age appears in surgeon's office at 9 a. m. Has one x-ray exposure of kidney region made. It is negative. Writes check for \$300 and at 3 p. m. has one of his kidneys shown to him on a platter. No other testing done and the kidney to all indications normal. I submit the second man is by far the more unfortunate of the two.

Third—Cases of incomplete study.

Young lady about sixteen years is brought in hospital at midnight. Sick two days. Temperature 102. Pain and tenderness in right side. It is late, everybody tired. Well let us take out her appendix. We do so. Next two days patient does not improve. Find a right sided pyelitis. (Personal case.)

Another.

Child, age twelve years. Very sick three days. High temperature, rapid pulse. Rigid over right

rectus, also tender. Operated, (out of the state, as we love to say) removed a normal appendix. X-ray showed a beautiful central pneumonia.

One could continue indefinitely with histories similar to these but it only illustrates the point I wish to make, viz., more care, not the lack of knowledge so much as the failure to utilize all the means we have before making a positive statement.

Fourth—The hopeless malignant cases.

Woman, age seventy-five years: Cancer en cuirasse of breast extending almost to midline in back. This case occurred a good many years ago in the service of my very dear friend and teacher who has gone to his reward, Dr. C. W. Oviatt, formerly of Oshkosh, Wisconsin. The son of the patient insisted that the doctor do something for his mother. The doctor firmly refused, explaining that she had lived her three score years and ten, would live longer and die happier and with less suffering if nothing was done. Was operated within the same week by another surgeon, buried the next week. I shall never forget what Dr. Oviatt said to me when I reported the outcome of the case. He snapped his teeth together in a way peculiarly his own and said, "There are just two possibilities, either the man was ignorant and knew no better or he was a—rascal and did it to get the fee." He was not a novice, enjoyed a large exclusively surgical practice.

Every such case surely injures the cause of surgery.

I trust I will not be misunderstood. I do not present this topic in spirit of a critic. I have done so first of all to call attention to my own mistakes and with hope that I may make more honest effort in the future. I surely would not wish to create the idea that I am a pessimist. I was never more optimistic, nor more proud of the medical profession than at the present moment.

I have offered no solution of these problems in way of a fine detailed differential diagnosis and really have no apology for not doing so. It was not the aim of this communication.

In closing I wish again to quote from the article of Dr. John H. Gibbon. He said in the closing paragraph of his article, "I would suggest that the surgeon who does an unnecessary or wrong operation should be obliged to look after the patient for the remainder of his or her life and not be permitted to turn the patient over to the long suffering family physician. If this plan could be put into practice and if all surgeons studied their mistakes and ultimate results, surgical judgment would be a common characteristic and surgery enormously advanced."

INJURIES TO CARPAL BONES*

G. N. WASSOM, M.D., Oelwein

I select this subject not that I expect to bring anything new in a scientific way, but that I would call your attention to the importance of this region from a surgical standpoint. The general practitioner as well as the surgeon treats more injuries in this locality than in any other anatomical region. With the advent of the gasoline engine these injuries are gradually increasing in frequency. We find in our text-books several pages allotted to the discussion of fractures of the lower end of radius and ulna, but no discussion given to the carpal region, so too the professor of surgery ordinarily demonstrates of few Colles' fractures, and the average student starts with the impression that practically all injuries in this region are either Colles' or sprain. It has been my experience that the more serious injuries are neither Colles' nor sprain.

The closer the seat of any injury to important structures such as joints, nerves, vessels and tendons the more serious the injury and the more liable to complications. The wrist represents the region supplied by all these important structures.

Any bone deformity in the wrist is a constant and permanent reminder to both patient and his friends of the good or bad results of a more or less successful attempt at treatment. A patient is generally quite pleased with results if he has considerable deformity in other bones, as the soft tissues cover the deformity, and he is not aware of its presence, but any deformity in the wrist, however slight, invokes considerable complaint. Many carpal bones are intraarticular with scant blood supply. Following injury regeneration is retarded. Bone necrosis and atrophy may result. We have therefore, a region of much importance from a surgical standpoint.

Injuries of the carpal bones may be the result of direct violence, as a blow from a heavy instrument, or by indirect violence as a fall upon the hand either in flexion or extension. They most frequently result from such forces as usually produce fracture of the base of the radius, viz., a fall upon the extended or hyperflexed pronated hand. They are occasionally seen in combination with fractures of the styloid of the radius or a comminuted fracture of the lower end of the radius.

The symptoms common to fractures of any of the carpal bones are localized pain, tenderness on pressure, local swelling and pain on movement of

the wrist joint, particularly on abduction or adduction.

At times there is a history of injury followed by severe pain, swelling and tenderness, with pain on motion, which after a few days subsides to a certain degree, but fails to entirely disappear. There is inability of full passive flexion or extension of the hand. Any movement is accompanied by muscular spasm. There is generally no crepitus or ecchymosis present. Swelling persists and the outline of the extensor tendons of the thumb is more or less obliterated by this persistent swelling, particularly in fractures of the scaphoid.

In fractures of the scaphoid there is limitation of extension. Pressure in the hollow between the extensors of the thumb causes pain when the hand is in the adducted position. The lesion is generally a fracture at the neck, without much displacement of fragments. When displacements of fragments occur it is more often the proximal fragment that is dislocated. Flexion at the wrist shows abnormal prominence formed by the scaphoid, anteroposterior thickening, and definite pain and tenderness over the bone in the region of the anatomic snuff-box. In old cases there will be found definite swelling over the radial half of the wrist. In all cases anteroposterior and lateral radiograms should be made so that a definite diagnosis may be made and the presence of comminution or displacement of fragments noted. It should be remembered when x-ray examinations are made, that occasionally supernumerary carpal bones or additional centers of ossification may be mistaken for fracture.

These injuries should be carefully studied clinically and by radiogram, always in two or more planes. If, on examination of the plate a fracture or dislocation is demonstrated we should continue in search of other injuries, because you have demonstrated one lesion, is a good reason why others should be looked for, as in this region complications are frequent. None of the carpal bones are immune from injury. The scaphoid and the semilunar are most frequently the seat of trouble. By far the most common injury to the carpal bones is a fractured scaphoid. Authorities claim this fracture constitutes .5 to 2 per cent of all fractures or, in comparison with Colles' one fractured scaphoid to every 10 Colles'. The average man will find that he has a record of very few fractured scaphoids, while he has many Colles'. This is the one injury in the wrist which is most frequently not diagnosed. Actual fractures usually will show that active or passive movements at the wrist joint are tender and painful, and attempts to continue passive movements beyond a

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certain degree will be followed by extreme pain and at times muscular spasm.

Crepitus and ecchymosis are rarely observed while swelling is persistent. When the symptoms last for a considerable length of time diagnosis of carpal fracture may be made, and can often be confirmed by radiogram.

The kind of treatment to be adopted in the individual case depends upon the time which has elapsed since the receipt of the injury, and the occurrence or absence of displacements of fragments. When dislocation of a fragment or fragments are present, which cannot be overcome by manipulation, excision of one or several fragments should be performed. When there is no displacements of fragments and the patient is seen shortly after injury, attempts to secure union should be made during a period of four to six weeks. This is to be undertaken by placing the hand and forearm at rest upon a well padded anterior splint of wood reaching from the bend of the elbow to the tip of the fingers, with the hand in semi-pronation. If union has not resulted in that time, as shown by the radiogram, excision of one or both fragments should be performed.

A frequent injury to the wrist is a dislocated semilunar. This is the injury most often mistaken for Colles' fracture. The normal position of the styloid process, the swelling distal and not proximal to the interstyloid line, the characteristic claw-shaped hand caused by the pressure of the displaced bone on the flexor tendons should help differentiate the lesion. In this injury we have with the primary lesion, lacerated ligaments, ruptured vessels, exudate into tendon sheath and nerve pressure. Every movement of the injured part in the process of examination or attempt at treatment, while it does in most cases result in the reduction of the dislocation, may cause sufficient traumatism to the surrounding parts to discredit the procedure. In this event the bone should be excised.

To summarize, I will say that every surgeon and every practitioner of any standing has had his share of carpal bone injuries. If he has not treated a certain number it is fairly good evidence that he has failed in diagnosis.

Colles' fracture has a bad reputation among the profession, as it has for years stood foremost in the medicolegal class. Many of the bad results in so-called Colles' were due to Colles' combined with fracture of the carpal bones, or to fracture or dislocation of the carpal bones only. The reputation which this fracture has gained was secured prior to the advent of the x-ray and with all due regard for fracture of the lower end of the radius, I believe in time the x-ray will demon-

strate that injury to the carpal bones and not Colles' fracture is the cause of bad results in the region of the wrist.

TORSION OF THE OMENTUM*

EDWARD D. ALLEN, M.D., Hampton

Torsion of the great omentum is a clinical entity of comparatively recent observation and comparative rarity. The first case recorded was that described by Oberst in 1882. From that time until eleven years later no cases appeared in the literature. In 1893 Demons reported one case. No other cases were recorded until in 1898, Bayer, Eiselberg and Monod each described one case. Ten cases were reported in 1900. Five years later, in 1905, Corner and Pinches were able to collect fifty-five cases from the literature, including three of their own and wrote an exhaustive article on the condition. From then until the present about 100 additional cases have been reported.

Corner was of the opinion that the scarcity of reported cases was not due primarily to the infrequency of the condition, but to either lack of observation or mistakes in diagnosis. It is because the present case presented the usual diagnostic difficulties, and, in fact, was not diagnosed before operation, that it is here recorded.

The patient is a man fifty-four years of age who had always, since childhood, been in good health and active. He never had any trouble referable to the abdomen except that he was sometimes distressed with gas after a heavy meal. He has had a right inguinal hernia for the last twenty years or more which has never been painful and has always been reducible. At times the hernial mass has descended into the scrotum. On December 25, while vigorously shoveling snow he was suddenly taken with severe pain in the right side of the abdomen which forced him to lie down. Soon after he became nauseated and vomited. The pain and vomiting continued throughout the day with increasing severity.

At 11 p. m. examination showed the following conditions. The patient, a man, five feet five inches in height; weight 220 pounds. The heart and lungs normal. The blood-pressure was 140 systolic; 90 diastolic. The abdomen was distended and there was a great deal of fat in the abdominal walls. The whole lower right side of the abdomen was tender to palpation and there was some rigidity of the rectus muscle. The point of greatest tenderness was over a point midway between the umbilicus and the iliac spine. No mass was palpable, because of the thickness of the abdominal walls. The hernial sac was empty and

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there was no tenderness over the hernia. The external ring was very large and would admit the tips of three fingers. The pulse was 100 and the temperature 99.5. The blood examination showed a leucocytosis of 12,000. The urine was negative to albumin and sugar and there were no casts. A diagnosis of acute appendicitis was made and operation advised.

Operation was done in the early morning of December 26 under ether anesthesia. An incision was made over the outer border of the right rectus muscle. On opening the peritoneum there was found some clear straw colored fluid without odor. The omentum presented in the incision and was dark colored and swollen. The veins were thrombosed and the whole mass suffused with blood. The free end of the omentum was not in the internal ring of the hernia, nor was there an adhesion at any point. Near the colon it was twisted into a small pedicle. The omentum was ligated beyond the pedicle in healthy tissue and the whole strangulated mass resected. The raw stump was covered. The appendix was normal but was removed, and the abdomen closed without drainage. The patient made a good recovery. Eight weeks later the hernia was repaired. The mass removed weighed four pounds and included nearly the whole omentum. There was no evidence of adhesions at any point. There were three complete twists in the pedicle.

The exact etiology of torsion of the omentum is not definitely known. Among the predisposing causes are: (1) Sex. In the reported cases the male sex greatly predominates, 68 per cent in the male to 32 per cent in the female. (2) Age. It is a condition which occurs largely in middle life. Seventy-eight per cent of all cases have been between the ages of thirty-five and fifty-five. (3) Hernia. Hernia has been present in over 90 per cent of all the cases reported. Among the direct causes of torsion of the omentum which have been suggested are, adhesions of the omentum to the abdominal viscera, such as intestine, appendix, ovary, tube or hernial sac, tumors of the omentum, inflammation of the omentum matting the free end into a ball, sudden severe strain, trauma, increased intestinal peristalsis forcible reduction of hernia, and overdistended and tortuous veins wrapping around the stiffer and shorter arteries.

The mechanism by which torsion of the omentum is brought about is also not definitely known. It is probably true that a perfectly healthy omentum would never undergo torsion. In order to produce torsion it is likely that there must first be a fixed point along the free border. This fixed point may be formed by adhesion, by an inflammatory process matting the free end of the omentum into the form of a ball, or by the formation of a tumor of the omentum. Given, then, by any of these means, a fixed point which acts as

an axis, the omentum may be made to flow or roll by the peristaltic forces of the intestines, by the unequal pressures within the abdomen, caused by the passage of gasses through the intestinal coils, or by severe effort or trauma. If, then, the omentum is not free to move because of being attached at some fixed point, it is only natural to suppose that its movements will be along the line of least resistance, which will be around its long axis. One or more revolutions around the long axis will lead to the formation of a pedicle, and will impede, and, possibly, arrest the circulation entirely, and thus produce strangulation.

There are three general types into which all cases of omental torsion may be divided. They are abdominal, hernial, and the combined hernial and abdominal. The abdominal group comprises all those cases in which the torsion is wholly confined to the abdomen and in which there is no hernia. This is by far the least common type and forms only 10 per cent of the reported cases. The hernial group is made up of those cases in which the torsion is wholly confined within the hernial sac. The combined hernial and abdominal group, includes all those cases in which the tumor or torsion is not limited necessarily to the hernial sac, but extends into the abdomen, or there may be a series of twists in each. This group is again subdivided into those cases in which there is a hernial tumor and those in which the hernial sac is empty. The second and third group make up the large majority of the reported cases and the percentage is about evenly divided between them.

It is interesting to note the clinical diagnoses that have been made in the reported cases of omental torsion. In the abdominal group practically all the cases were diagnosed before operation as acute appendicitis. In the hernial type the diagnosis of either strangulated or irreducible hernia was made in all cases. In the combined abdominal and hernial group various diagnoses were made, such as strangulated inguinal hernia, incarcerated inguinal hernia, irreducible hernia, reduction of hernia en masse, sarcoma of testicle, appendicitis, intestinal obstruction, abdominal tumor, intraperitoneal abscess, peritonitis, and in one case the correct diagnosis of omental torsion was made before operation.

In only about half of the reported cases is there any reference made as to the mode of onset. In the reported cases the onset was sudden in 37 per cent and gradual in 13 per cent, so we may consider that in about two-thirds of the cases the onset is sudden. In the purely abdominal type the onset is almost invariably sudden. In Monod's case, he reports that immediately after a severe effort the patient felt a sharp pain in the iliac

fossa. Noble's patient had a sudden onset with excruciating pain in the abdomen, with nausea and vomiting. In Broca's case, he reports that, suddenly one morning an irreducible tumor appeared in the inguinal region without signs of strangulation. On the other hand, Corner's patient had been ill for ten days with pain in the right side of the abdomen gradually growing worse.

Pain is always present and is the first clinical symptom to appear. In the purely abdominal type the pain is nearly always located in the right iliac fossa or over McBurney's point. It may, however, be diffusely located around the umbilicus, or may be referred to the epigastrium, to the right kidney region, or to the right hip. In the hernial type the pain is present in the hernia alone. In the combined type the pain may be present in the hernia alone, the abdomen alone, or both. In most cases it is of so severe a character as to force the patient to go to bed, and is very acute and persistent. Occasionally it may be only a dull aching pain localized in the lower abdomen. Neither rest in bed, food, nor bowel movements have any effect on the severity of the pain.

Vomiting is not a constant symptom, but when present is usually severe and intractable in character and very distressing to the patient. It may be so severe as to suggest intestinal obstruction, without, however, the fecal vomiting. The condition of the bowels is not as a rule changed. Later on there may be paralysis of the bowel as gangrene and infection sets in.

In the early stages before complications arise the temperature may not be much affected. There is usually but a slight rise until infection sets in. The pulse is accelerated but does not run extremely rapid, ranging from 80 to 120.

Blood examinations show a moderate increase in the white blood cells with a polymorphonuclear leucocytosis.

A tumor may be felt in a large majority of the cases if there is not too much abdominal fat, or too much muscular rigidity. The tumor mass, when palpable, is large, with ill defined margins and an irregular surface. It is tender to palpation. In the abdominal type the tumor mass is situated in the iliac fossa or in the right side of the abdomen over the appendiceal region. In the hernial type all cases have a hard, painful, irreducible swelling in the inguinal region. In the combined type the tumor may be either hernial or abdominal or both, and may be traced from the hernial sac to the abdomen. There is abdominal distention in a small per cent of the cases. Ab-

dominal rigidity is as a rule not marked, but increases after peritonitis begins.

The diagnosis in the abdominal type, without hernia, is difficult and has seldom been made. If, however, there is, in the absence of a hernia, a painful spot in the right iliac fossa, which gradually increases in severity, with the formation of a rapidly growing and irregular tumor, together with the other signs of an acute abdominal crisis, it is justifiable to suspect torsion of the omentum. In the other two types, if we have a man of middle age with a hernia of some years duration, which lately has been troublesome and suddenly becomes irreducible, or if there appear the symptoms of a subacute intestinal obstruction, minus, however, the fecal vomiting, and if the hernial tumor is found painful, irreducible, incarcerated or strangulated, or if a tumor mass is found also in the abdomen as well as in the hernia, or if the tumor is present only in the abdomen, we may safely make the diagnosis of torsion of the omentum.

Some of the conditions which may be confused with torsion of the omentum are intestinal obstruction, strangulated hernia, appendicitis, tumor of the omentum or mesentery, intraperitoneal abscess and peritonitis. It is not so important to make a diagnosis in the abdominal and hernial types beforehand as it is to recognize the need for operation, make the diagnosis during the operation and treat it properly. In the combined type a tumor in the abdomen and an inguinal hernia on the same side of some duration, which will give signs of irreducibility and pain, with the abdominal and inguinal tumors continuous, will make the diagnosis of omental torsion more than a guess.

The prognosis, with an early operation, is good. In all the cases reported, the operative mortality, excluding those who were moribund or who died of pneumonia or delirium tremens, was just under 4 per cent. The mortality and risk increase with delay in operation.

The treatment is purely surgical. An incision should be made over the tumor mass, the strangulated portion resected above the pedicle and the omentum securely ligated in several sections. The resection and ligation should be in healthy omentum so as to avoid chances of embolism or thrombosis. The ligated stump should be covered if possible. The appendix may be removed and the abdomen closed without drainage if infection is not present. In the hernial type the omentum should be resected and the hernia repaired at the same time. In all cases of acute abdominal crisis, if the pathology sought for is not great enough to account for the symptoms present, it is well to

make a thorough exploration of the abdomen with the possibility of torsion of the omentum in mind.

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Discussion

Dr. Louis G. Patty, Carroll—According to the statistics presented by the essayist, it was in 1872, fifty-two years ago, when the condition known as torsion of the omentum was first found. That is a half century. It is within the lifetime of nearly everyone here. Many were then just beginning the practice of medicine. As time went by and operators became more bold in the matter of surgery of the abdomen additional cases were found. Consequently in 1893 another case was recognized, and five years more elapsed before another case had been found. Then, as surgeons became more bold, in 1900 they found ten cases. It came to be generally realized by the profession that surgery of the abdomen was not very well developed, although the bolder ones were doing a great deal, and later on we heard much about exploratory operations rather than what the diagnosis might be. But more recently we have wanted to make a guess before going into the abdomen, and many times it is merely a guess. In 1905, as operators became more skilled in abdominal exploration, fifty-five cases were reported. Up to the present time, as the essayist has stated, 100 additional cases have been reported, the majority of them in the last few years. At the present time the opening of the abdomen is considered a very minor operation. It is being done promiscuously every place, therefore we should in the future find a greater percentage of these cases. And as a result of Dr. Allen bringing the subject before us, there probably will be more and more observation in regard to this subject. Many of you are familiar with the studies of Monad and Noble along this line. Dr. Noble particularly is quite profuse in his description of these conditions.

Dr. Allen—I feel that probably an apology is due for presenting a paper on a subject like this. But while it may be true that Corner in his treatise has said the last word on torsion of the omentum, still, as stated, I happened to have a case and therefore was interested in looking up the literature, and decided to present a paper on the subject in the hope that it would at least have the merit of being a short one.

**State Society Dues
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Hand them to your secretary**

SYPHILIS IN SURGERY*

E. D. TOMKINS, M.D., Clarion

Syphilis is a disease that has been a problem for physicians to contend with since the time of Esculapius. I have never been able to ascertain, whether Adam and Eve were tainted with this disease or not. Unfortunately the Wassermann test was not used extensively in those days, and consequently, we probably will always be in the dark.

In spite of the fact that syphilis has been studied all these years, it is only comparatively recently that much progress has been made in the handling of the disease. With the advent of the Wassermann test, we in the rural districts were amazed at the number of cases that we found among us. We used to think that syphilis was strictly a city disease and that it was not necessary for a country doctor to know much about it. We now know that syphilis is a factor to be considered in all cases of the chronic type, and especially those conditions that are difficult to diagnose on account of vague symptoms and history.

Syphilis is a common cause for error in diagnosis, and to complicate matters it oftens happens that syphilitic conditions occur together with a disease they resemble. As an example, we may have a gummatous infiltration, and tuberculosis of the testicle.

As is well known syphilis attacks the arteries, veins, heart, liver, kidneys, bones and joints, the rectum, the digestive tract, the spleen, the testicles, the bladder and genitalia, the respiratory organs and the central and peripheral nervous system. Syphilis of the circulatory system, and central nervous system is more in the realm of the internist. Possibly a gumma of the brain or cord might be confused with a tumor or neoplasm of these parts, but this error is not especially common now days, for when a patient exhibits symptoms of brain tumor a Wassermann is usually made. Varicose ulcers and varicose veins may be caused by under-lying, unrecognized luetic bone diseases, in such cases a return will occur after operation.

In visceral syphilis of the abdomen, there are many opportunities for errors in diagnosis.

Specific disease of the liver is usually of the gummatous type, and is associated with more or less fever of an atypical type. When the nodules are situated anteriorly, they are palpable. There is wasting and progressing weakness. The liver is enlarged and painful, there is usually ascites,

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more or less perihepatitis and often jaundice. With these symptoms we might easily diagnose carcinoma of the liver or abscess. In the secondary stages of syphilis the bile passages are often invaded and we have a condition resembling cholecystitis. However, they usually run a benign course and respond readily to luetic treatment.

What has just been said about the gummatous infiltration of the liver can be applied to gummatous condition of the spleen, kidneys and pancreas. With the exception of the rectum, syphilis of the digestive tract is not common. However, some authorities claim that at least 10 per cent of the gastric ulcers are of a syphilitic origin. Syphilis of the intestines may resemble indolent appendical abscesses, and strictures of the intestines caused by cancer.

Syphilis may be the cause of pericolic membranes and the symptoms they produce, which are abdominal pain, gas, indigestion and neurasthenia.

In syphilis of the osseous system and joints, there are many conditions that syphilis may resemble. This is true in osteoperiostitis and tuberculosis of the bones. Retarded or non-union of fractures is usually, and by some surgeons, always considered to be due to a luetic infection.

Symmetrical synovitis of the knees may be confused with a syphilitic bursitis. In such a case an operation on a syphilitic condition would be poor surgery.

Cervical adenitis caused by tertiary syphilis has been mistaken for Hodgkins' Disease and a deep seated mediastinitis of syphilitic origin has been mistaken for cancer, and consequently, the wrong prognosis made. Primary lesion of the lip may be confused with epithelioma.

I have gone over the possibilities of syphilis causing mistakes in diagnosis, briefly, and from the number of errors it is possible to make, I have endeavored to show that syphilis plays an important part in surgical diagnosis. A wrong diagnosis leads to wrong treatment and no results. Undoubtedly these errors have caused in the past needless operations and unnecessary suffering by the patients. In recent years, with all the means we have for making correct diagnosis, these errors are not so frequent, but there are undoubtedly more made now than there should be.

It is not the purpose of this paper to discuss the surgery of syphilitic conditions but to point out some complications that syphilis may cause in general surgery.

Probably the most annoying condition that is produced by a luetic infection is the delayed or

non-union of aseptic abdominal wounds. Fortunately this is not a frequent occurrence, but when it does happen, it is more or less difficult to handle on account of lack of experience and scarcity of literature on the subject. Perhaps the recent graduate has received some instruction on these cases, but I must confess that when such a case came up in my practice I knew very little about it.

Considering the amount of surgery that I do, I think my experience has been rather unusual, in that I have had two such cases in my practice. The following is a brief report of these cases:

Case 1. Mrs. B. H., age forty-eight, came in complaining of severe periodic pain in the lower part of the abdomen. Besides these periodic spells she had almost constant ache in this region. Examination revealed masses on both side of the uterus. At operation a chronic salpingitis was found of both tubes, and the pelvis presented many adhesions. Both tubes were removed. There was nothing unusual in her convalescence. When the stitches were removed on the eighth day, there was apparently no union in the incision. The wound separated down to the peritoneum. Syphilis was not suspected in this case, and no Wassermann was taken before the operation. After the condition of the incision was discovered a Wassermann was taken and this came back four plus. This patient was put on anti-luetic treatment and finally healed in about three months, after which she developed a ventral hernia.

Case 2. Mrs. H. G., age twenty-nine. Her symptoms were similar to those of the first case except the pain was not so severe. She had been married five years, never been pregnant. About nine years before, she contracted syphilis and has had treatment at various times ever since. Her Wassermann at the time of examination was four plus. We put her on treatment and gave her four doses of neo-salvarsan. We then operated and removed a large ovary on the left side, and the appendix.

Her condition, for the first three days, was that of a normal case. On the fourth day she developed a temperature and the lower part of the abdomen became hard and felt indurated. Expecting that I had an infection I opened up the lower part of the incision but was unable to find any pus. The temperature gradually came down and the condition in the abdomen subsided.

On account of this flare up, and the fact that she had syphilis, I did not remove the stitches until the fourteenth day. Her wound gapped in the same manner as case one did and in spite of active anti-syphilitic treatment it was six months before the wound was entirely healed. Her last Wassermann was 3 plus.

Darnall has reported three cases of this kind.

One, a negress, was operated on for a large fibroid of the uterus. Wassermann was not done but syphilis was suspected. On the tenth day the stitches

were removed and the entire wound fell apart even the peritoneum.

Another case was that of an Italian. A cholecystectomy was performed. Five days later there was no infection but no healing, and the intestines protruded into the wound. His Wassermann was positive.

The third case was that of a female with carcinoma of the cervix. On removing the sutures on the tenth day the incision appeared normal but in a few hours the wound gapped open in the same manner as the case referred to just above.

I have one more case that I would like to report that is different from the cases just cited in that there was an infection.

Mrs. H. J., age twenty-eight, was operated on for chronic salpingitis and cystic ovary. A median incision was made. On opening the lower part of the peritoneum it appeared thickened.

This case followed the usual course for the first three days, then the temperature went up and she developed all the symptoms of peritonitis with the exception that her bowels moved daily. The lower part of the wound was opened and there was plenty of free pus. She eventually made a recovery but her wound is not entirely healed yet and she was operated on in November, 1923. She was known to have syphilis and had had treatment. Since the operation she has continued with anti-syphilitic treatment and her last Wassermann was still four plus.

It is a well known fact, that in acute syphilis, wounds do not heal readily as a rule. Why this happens in some cases of advanced syphilis and does not in others. I am unable to explain. There are several theories, but I have read of none that explain the condition satisfactorily to me.

M. F. Porter discussed the causes of this condition in 1914. He limited his discussion to operations in the upper abdomen. He tried to demonstrate that delayed healing was caused by (1) augmented tension in the upper abdomen; (2) scanty circulation in the abdominal tissues, or disturbances of nutrition affecting the nerve supply.

According to Morris, it is caused by a neurovascular or trophic disturbance. Others attribute the condition to toxemia, others to some biochemical condition of the blood that no one seems to know anything about. Deaver thinks that, barring infection, any abdominal wound should heal.

I have no theory to offer as to the cause of delayed healing and can offer nothing new in the treatment of the condition. My only object being the hope that some one with more experience and better facilities for investigation will work out the true explanation. Fortunately these cases are rare, but it is the rare conditions that cause the

surgeon more worry than the every day occurrences.

Discussion

Dr. Prince E. Sawyer, Sioux City—If I were to criticize the paper which the essayist has presented to you this morning, it would be to say that, in my opinion, he has tried to cover too much ground. The subject of "Syphilis in Surgery", is so broad that I believe it might be well to devote one's attention to some particular phase of the subject, thereby giving one more time to elaborate upon that subject. The essayist has presented the subject wonderfully well and covered it as thoroughly as one could possibly do in the short time allotted to him at this meeting. There are one or two points that I would like to pay especial attention to at this time, and one of these is "Syphilis of the Stomach" and the other "The Delayed Union of Soft Tissue", by which I mean the slow healing of operative wounds. Syphilis of the intestinal tract occurs most frequently in the rectum, but from a surgical standpoint syphilis of the stomach is much more interesting to discuss. As the essayist has said, some authorities claim at least 10 per cent of the cases of gastric ulcer are syphilitic in origin. Ewald is one of the authorities who makes this statement and I am sure that he has the percentage decidedly too high. In fact, I am doubtful if one-half of one per cent is not an over-estimate. These cases run practically the same course that ordinary benign ulcers run, except that they seem to have less pain and some writers believe what pain they do have occurs more frequently at night. Also, they seem to lose weight more rapidly than benign cases, and show a decided improvement upon the administration of anti-syphilitic remedies. The Wassermann nearly always tells the story, but if it does not, the anti-syphilitic treatment does. The picture that these cases present is well known to you all. First, you have a gumma, usually multiple. These in turn ulcerate with adhesions to the surrounding structures, and when healing takes place more or less distortion of the stomach follows. This condition occurs frequently enough so that I believe it is always wise in examining our cases for gastric ulcers, as a routine measure, to have a Wassermann done. In looking over the histories of some thirty-odd cases the other day, in which pylorotomies and gastroenterostomies were done, in the post-operative complications nothing was observed about slow healing of any of the cut surface. This brings us to the other point that I wish to discuss, namely, the slow healing of operative wounds in syphilis. As the writer mentioned, several authorities take the stand that these wounds heal, as a rule, slowly, although they can offer no explanation for this peculiarity, while others, among them Deaver, insist that the presence of syphilis has no effect upon the healing of clean operative wounds. Personally, I agree with the latter, as I cannot see how this disease could have any effect upon the healing of the soft tissue except during the acute stage. At that time, a patient being more or less anemic, and perhaps running a temperature, might have some difficulty, but when

this stage is over and the patient has entered upon the quiescent period of the disease, I cannot see how union of soft tissues could be delayed in the least.

Dr. Julius S. Weingart, Des Moines—One criticism: The historical reference of the essayist. Syphilis was not a problem of Esculapius or Hippocrates. Syphilis was brought to Europe by Columbus and his sailors. I think that is very well proved. I do not think that the danger today is on the side of over-looking syphilis; I think the danger to the profession is in thinking that every obscure condition is syphilis. We are getting away from the clinical view of syphilis, as we are getting away from the clinical observation of every case. The medical profession must know what syphilis looks like, what it does, where it is apt to strike in the system, and a Wassermann test is no excuse for not observing cases that have syphilis. As some one has well remarked, we should be quick to suspect syphilis and slow to diagnose it. The fact that the patient has a positive Wassermann does not mean that the patient's symptoms are due to syphilis. There is a good deal of question about these syphilitic stomachs. No laboratory test is going to tell anything of that sort. One must use his clinical acumen to determine whether a given thing is syphilitic or not. In my own experience I am taking Wassermanns on every case that comes for diagnosis, but there are very few times when I am surprised by the results, and I think that is the experience of nearly every one. Sometimes, however, you will be surprised by the Wassermann, and if there is no clinical evidence you should review the case thoroughly. In a case that looks like lues, if a woman comes in with the history that she recently had salvarsan and is going blind, even if you have a Wassermann with blood and spinal fluid negative go ahead and treat that patient. In one such case that I saw the blindness disappeared and the patient was able to see. You must use judgment. The therapeutic test is after all our only proof that a given lesion is syphilis, and it must be based, as Stokes has shown, on definite findings. You must be sure in giving arsphenamin and mercury. If on suspecting syphilis you give arsphenamin and mercury and the patient says he feels somewhat better, this is no proof of syphilis, and too many innocent people have been convicted of having syphilis on such insufficient grounds. Our proof of syphilis even yet is largely clinical, and every method that we have to diagnose the disease must be backed up by one of two things: The history or the physical examination. And we must get back to the observation of syphilis. The surgeons must get back to the fact that when certain things come in certain parts of the body they should be instantly suspected: A tumor on the rib, on the sternum, on the clavicle, which does not clear up—something a little bit unusual. The eye, ear, nose and throat men have sometimes operated on so-called tumor of the nose that was a gumma of the septum, when they should have known that that was a point of election and have been on their guard.

Dr. Tompkins—I will have to plead my ignorance as to the time syphilis was discovered. I thought I would go back far enough, but will have to leave it to the Doctor that he is right on the subject.

METALLIC POISONING AND TREATMENT

ROBERT EMMET JAMESON, M.D., Davenport

Dermatologists and syphilologists especially are interested in poisoning from the various medicines now employed in the treatment of syphilis in this day and age. There are three drugs used which may cause metallic poisoning in various degrees, namely: mercury, bismuth and the arsenicals.

We find also that the general practitioner of medicine see cases who have metallic poisoning in the various trades, from lead, copper and zinc.

Usually the cases seen demand immediate treatment, and Drs. McBride and Dennie of Kansas City, Missouri, have described a preparation used by them for mercury and salvarsan or arsphenamine poisoning, usually seen and diagnosed as salivation or dermatitis or exfoliative dermatitis, and the preparation used by them is known as "sodium thiosulphate". In an article by these physicians which appeared in the "Archives of Dermatology and Syphilology", January, 1923, they give an outline of the method used by them for administering sodium thiosulphate for metallic poisoning, and their results have been splendid, also more recent users of sodium thiosulphate, have made reports which have also been very encouraging. (The French used this or similar preparations years ago and perfected the present method. In [J. D. and S.])

I have not had the number of cases with salvarsan rash salivation or mercuric chloride poisoning to treat as these men have had. After reading their article, however, I immediately ordered from the H. A. Metz Co., of New York, the sodium thiosulphate preparation so that I would have same on hand to use in case of emergency. I ordered from the H. A. Metz Co., the following:

1 box ten ampules of the assorted sodium thiosulphate; 1 ampule of each of the following: 0.3 gm., 0.45 gm., 0.6 gm., 0.75 gm., 0.9 gm., 1.2 gm., and 1.8 gm. Four of the latter.

This to be used intravenously, starting with the 0.3 gm. in 10 c.c. fresh distilled water, using 10 c.c. fresh distilled water for the 0.3, 0.45 and the 0.6 gm., and 20 c.c. fresh distilled water for the others. Using the above amounts as follows: 0.3 sodium thiosulphate in 10 c.c. fresh distilled water first day; 0.45

sodium thiosulphate 10 c.c. fresh distilled water second day; 0.6 sodium thiosulphate 10 c.c. fresh distilled water third day; 0.9 sodium thiosulphate 20 c.c. fresh distilled water fourth day; 1.2 sodium thiosulphate 20 c.c. fresh distilled water fifth day; 1.8 sodium thiosulphate 20 c.c. fresh distilled water sixth day; 1.8 sodium thiosulphate 20 c.c. fresh distilled water seventh day; 1.8 sodium thiosulphate 20 c.c. fresh distilled water eighth day; 1.8 sodium thiosulphate 20 c.c. fresh distilled water ninth day; 1.8 sodium thiosulphate 20 c.c. fresh distilled water tenth day.

This is especially recommended for salvarsan rash, dermatitis, and exfoliative dermatitis following the administration of salvarsan, neosalvarsan, arsphenamine and neoarsphenamine. Following the first dose, to quote from the article in the Archives of Dermatology and Syphilology by Drs. McBride and Dennie, the redness, edema and serious exudate become lessened, the dry desquamating stage is reached on the fourth to tenth day, the entire course of the condition is shortened from three to six months to as many weeks.

The use of sodium thiosulphate shows even more marked results in cases of mercuric chloride poisoning. A case of severe bichloride of mercury poisoning, with abdominal pain, bloody stools, albuminous urine and even unconsciousness, the procedure for treatment is as follows:

First wash out the stomach (if it is a case where bichloride of mercury has been taken per mouth intentional or accidental); wash the stomach with stomach tube and water to remove as far as possible the poison taken. After having washed the stomach, give 15 gm. in 480 c.c. water, per mouth, also give as soon as possible intravenously once daily in same dosage as for the arsenic rashes mentioned above, until ten (once daily intravenous injections have been given) and in addition give 1 gm. in solution T.I.D. per mouth on same days that the intravenous injections are given.

After the first dose the pain is markedly relieved; after the fourth dose the patient is practically well.

From the reports of Drs. McBride and Dennie and recent reports from other physicians on the use of sodium thiosulphate in the treatment of metallic (arsenic, lead, bismuth, copper, zinc and mercury) poisoning and my own limited experiences with the above preparation I would recommend it to all physicians who are treating syphilis with the various preparations which are known to cause poisoning in overdoses, or in those patients with idiosyncrasy to arsenic, mercury or bismuth, and to the general practitioner of medicine who may have cases coming under

his observation and treatment with the above metallic poisons, also lead poisoning as seen in painters, zinc and copper poisoning also seen in the various trades, and by the dermatologist in his practice. It seems with such reliable therapeutic medicines, that every hospital, various industrial plants, should keep on hand at all times sodium thiosulphate for emergency use, police stations and ambulances which have their emergency outfits and probably see more cases of emergency poisoning than industrial plants, should have sodium thiosulphate in their emergency outfits, with instructions for its use and would be the means of saving many lives.

P. S.—An American preparation, manufactured by the Dermatological Research Laboratories of Philadelphia, has been accepted and has been used for the past several years and found to meet every requirement, therapeutically efficient. In fact two preparations are made by the above company, namely: simamina and sodium theosulphate.

COOPERATION OF SPECIALISTS

GORDON F. HARKNESS, M.D., Davenport

The division of medicine into various specialties caused a divergence of ordinary working pathways. The advancements of our age have necessitated a cooperation between the various groups and the impetus given this cooperation between the syphilographer and the oculist is due largely: first, to the recognition by Schaudin and Hoffman in 1905 of the spirocheta pallida as the causative agent; secondly, the sero-diagnosis of syphilis as introduced by August von Wassermann in 1906, and thirdly, the more perfected methods of treatment and the proper combination of the same. To this team as regards the oculist, the radiographer became a necessity, with our recognition particularly of the influence of the diseased nasal accessory sinuses either directly or as foci of infection.

Statistics gathered by Santos Fernandez in Havana, Harmon, Manson, Mackie and Smith bring us to the conclusion that excluding traumas, conjunctivitis, cataract and refractive errors half of the cases of eye diseases may be due to syphilis.

Some one has wisely said that syphilis may simulate any condition. Of the extragenital primary lesions 4 to 6 per cent are ocular. In 40 per cent of the ocular conditions in which the spirocheta pallida can be demonstrated, there will be a negative Wassermann for one or two weeks after the appearance of the lesion. In spite of

the similarity to carcinoma or epithelioma a lesion should not be pronounced negative as regards syphilis until after repeated examinations. With the diagnosis established within the first two weeks immediate treatment may abort the disease and cause disappearance of the local lesion with very little scarring. The oculist is not only in a position to form the advance guard for the syphilographer at times with initial lesions but secondary manifestations may reach him first not only in those who have had knowledge of an infection, but in those unaware of the presence of lues. Papillary syphilides of the conjunctiva are very rare. Copper colored spots call for a search for the same condition in the skin. Gumma of the conjunctiva is likewise very rare. Gumma of the lids is the most frequent manifestation of palpebral syphilis. The condition may be mistaken for a cyst or chalazion and in older lesions, careful differentiation must be made from rodent ulcer and malignancy. A chronic uniform bilateral thickening of the tarsi of the upper lids demands cooperative work since this may be a late acquired form of syphilis or a hereditary type of the disease. Lack of bleeding when the lid is cut is particularly significant of probable syphilis.

Between the ages of two and fourteen, 50 per cent of all the affliction of the lachrymal apparatus are syphilitic. Epiphora often overlooked, forms the most prominent symptom of a syphilitic stenosis of the naso-lachrymal duct.

Steeren states that 50 per cent of syphilitic fetuses are still born and that 80 per cent of the remainder develop ocular disease. Hereditary and acquired syphilis, it must be remembered, are the same disease though their manifestations vary. Of the former (hereditary) we have parenchymatous keratitis, irido-chorioiditis, iritis (rare), lens opacities, glaucoma, bulbous keratitis, karto-malacia, and retino-chorioiditic changes.

Parenchymatous keratitis may be either hereditary or acquired, and when due to the former may occur from between five and forty-five years of age. It is not within the province of the paper to go into a description of the condition. It is almost always complicated by an inflammation of the uveal tract. Hutchinson teeth often accompany and frequently there may be defective hearing as well as small painless enlarged lymph nodes. Swelling of the periosteum over the tibia aids the clinical confirmation. We are particularly valuable here to the syphilographer, because we may be the first consulted and proper advice followed by the parents may mean everything to these patients seen early in life.

Again we are of value by being able to confirm by clinical examination a former parenchy-

matous keratitis since it almost invariably leaves its scars.

Neoplasms of the sclera demand on our part the assistance of the syphilographer, for the confirmation of the presence of lues means the rapid disappearance of the gumma while positive diagnostic elimination of the disease means a probable sarcoma. Fortunately sarcoma is rare here as a primary condition.

The presence of iritis and irido-cyclitis may be due to inherited or acquired syphilis. The papillary and gummatous form are peculiar to syphilis, though the former may be confused with miliary tuberculosis of the iris. Outside of this there is nothing that is really pathognomonic in the appearance of the iris. It is here that we should especially not be content with the establishment of a luetic diagnosis for the iritis even in the presence of syphilis may really be due to a focal infection. Here the cooperation between the radiographer and the oculist is to be emphasized in the search for a possible focus, including accessory sinuses and teeth. Brown and Irons in their classical paper on this subject showed that in 16 per cent of their cases, syphilis was present and yet it was not the cause of the iritis. Syphilis was the cause in 23 per cent of their cases.

The lens is never affected directly by lues, yet luetics are more prone to have cataracts, either the result of tissue changes following the disease or due to repeated inflammatory attacks of the uveal tract caused by syphilis.

Chorioiditis, retino-chorioiditis and retinitis when recognized by the ophthalmologist, call for intense cooperative work, first in establishing the cause of the disease, either of luetic or of focal origin; and secondly, treatment pushed to the limit of toleration if luetic or radical surgical elimination of a focus, especially when located in the nasal accessory sinuses. Equally important is the cooperation in affections of the optic nerve. Lues ranks third as the cause of optic neuritis. All degrees of papillitis may be caused by syphilis. In Neuman's clinic in Berlin 81.9 per cent of the infants with hereditary syphilis had optic neuritis. It is a valuable sign in hereditary lues. Tumors of the hypophysis in the region of the sella turcica may be gummata.

Atrophy of the optic nerve may be unilateral and yet luetic. Intraventricular injections have been reported favorably by Suker. Schoenberg in his experimental work demonstrated that medication directed into the spinal canal becomes inclosed and does not reach the optic nerve and cortex.

Syphilis is by far the greatest cause in paresis of the intraocular and extraocular muscles. In-

cluding tabes it is the cause in probably 75 per cent of the cases.

In these cases we may be of some aid in a cooperative way in localizing or in eliminating certain areas as the site of the lesion. Lesions of the cortex never cause paralysis of individual eye muscles except ptosis and conjugate paralyses.

Lesions in the floor of the fourth ventricle produce paralysis of several muscles and is generally bilateral. Fascicular lesions as a rule cause oculomotor paralysis on the same side and paralysis of the extremities of the opposite side.

Basilar lesions as a rule affect various nerves in succession, those to the ocular muscles, the facial, the fifth and the optic nerve. Syphilitic paralysis of the intraocular muscles is generally unilateral but may be bilateral. The Argyle Robertson pupil due to lues may be unilateral. The ocular palsies are generally a late manifestation of syphilis.

Lesions of the optic nerve due to syphilis or where the condition appears as a complication in a known syphilitic the question of cooperation during treatment is important. In a paper on this subject several years ago I attempted to reach some conclusion after going through by correspondence the opinions and case records of many prominent men, and I came to the conclusion that the dangers to the optic nerve from treatment had been overestimated. This was in the earlier days of the use of neosalvarsan and other arsenic preparations had been known to seriously damage the optic nerve. Practically all of the cases then studied revealed that the end result might have been due to the disease as well as to the possible effect of the arsenical compound.

Most of the nerve cases are late manifestations of syphilis and we know that the later the evidence appears of the disease there is a proportionate progressive lessening of the beneficial effects of the neo-salvarsan. The mercurial and iodid treatment are still to be used and used intensively.

If this incomplete resume has in any way emphasized the importance of cooperative efforts, I should not neglect to add that when speaking of the syphilographer I have included the laboratory for without the laboratory the cooperative machinery simply would not function.

LOCAL PHYSICIAN IS VINDICATED ON CHARGE MADE OF MALPRACTICE

Complete vindication of charges of malpractice filed some time ago against Dr. Emma J. Neal and Mercy Hospital by Mary F. Novak was returned by Judge Allison in the district court at Marion yesterday when both cases were dismissed on account of lack of sufficient evidence to substantiate the plaintiff's claims.

Considerable publicity was given the plaintiff's petition when it was filed. The petition charged the doctor and the hospital with malpractice claiming that the plaintiff's daughter died as the result of improper care after an operation. It was claimed that the daughter, Mary Louise Novak died because of infection caused by an attendant sweeping the hospital halls near the patient soon after the operation.

Evidence introduced by the defendants showed that no such infection was caused by any such circumstances. Only one complaining witness testified and after the hospital record had been introduced the case against the hospital was dismissed.

The case against Dr. Neal and her consulting physicians, Dr. Bertha Van Hoosen of Chicago, who performed the operation, and Dr. C. S. Krause, who was called into consultation on the matter, was also settled, the record disclosing no evidence of negligence or unskillfulness on the part of the defendant.

INCREASED HEIGHT AND WEIGHT OF COLLEGE WOMEN

An interesting paper appeared in the Journal of the American Medical Association for August 18, by Dr. Clelia Duel Mosher of Stanford University, setting forth the improved physical condition of college women during thirty-seven years, based on 21,383 examinations; 4,170 at Stanford University in the past thirty years. Taking into account only increase in height, Dr. Mosher finds in the 4,170 women at Stanford, an increase of 1.2 inches. Taking into account Smith, 10,149; Vassar 7,064, and Stanford 4,170, shows an increase in height "well over 1.5 inches."

In this paper are several tables showing changes in measurements for the several decades and by states. The writer presents the several factors which are apparently responsible for these changes and shows conclusively that the physical condition is improving and that a college life does not impair a woman's health and vigor, but on the contrary, improves her physical strength and powers of resistance.

An important factor as far as college women is concerned may be attributed to the medical supervision and physical training which the enlightened policy our educational colleges have adopted during recent years.

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IOWA STATE MEDICAL LIBRARY

Recently we called to the attention of readers of the Journal an offer to furnish doctors of Iowa, through Frances B. Van Zant, medical librarian, any information desired concerning medical books, or medical journals.

In the short period of time since the legislature was induced to take an interest in medical literature, some 7000 volumes have been accumulated and 159 different medical journals have been placed on the shelves, fourteen of which are foreign language journals, including also all the important journals of foreign English speaking countries. These books and journals are always accessible. Our own possessions represent but a small part of the medical literature within our reach. Through our librarian, the books and journals found in our great libraries, including the great library of the surgeon general's office may be secured with a minimum of delay, the only expense to the reader will be the cost of transportation.

An important feature of our library is the making up of bibliographies and the checking up of references. In preparing important journal articles or papers, it is essential that the references to literature should be correct, and it not infrequently happens that the references have been hastily prepared and lead to embarrassment.

To make a reference library of real value, is to secure a highly trained chief librarian and a sufficient number of trained assistants. Until recently it has been supposed that a great accumulation of

books was the essential fact, but the vast amount of literature on a great variety of subjects has rendered even a great library of little value unless there is someone to find what is wanted.

If one was to visit the State Medical Library at Des Moines, he would find Miss Van Zant and her assistants overwhelmed with a vast amount of unclassified medical literature.

If the applicant wants a certain book it can easily be found, but if he is seeking for information on a particular subject, which is usually the case, it means looking over a great number of index cards to find the subject. There should be assistants enough to classify the contents of books, journals and reprints as they come in. If only a fraction of titles are classified, the applicant is deprived of some or perhaps many references he would like to secure. More than this, there are exchange classifications which are accessible to Miss Van Zant, so that if she has not the reference, she knows in what library the reference may be found and how it may be secured and in what language.

It is extremely difficult to find trained medical librarians. Classified medical libraries are of rather recent date, but absolutely necessary on account of the vast medical literature.

Our own needs have grown to such an extent that two additional assistants are absolutely essential to meet our home requirements. It is quite probable that we shall be obliged in large measure to depend on assistants trained by Miss Van Zant, on account of the small number of trained medical librarians in the market. Of course if trained, or partly trained assistants can be secured, so much the better.

To show what our needs are, we offer our own experiences.

1. In May, 1922, out of Des Moines books loaned 15
2. Requests by mail..... 11
3. In Des Moines, or personal, books loaned..... 85

From May, 1922 to December, 1922, inclusive:

1. Books loaned outside of Des Moines..... 339
2. Requests by mail..... 83
3. In Des Moines, or personal, books loaned..... 863

For the year 1923:

1. Books loaned outside of Des Moines.....1,662
2. Requests by mail..... 552
3. In Des Moines, or personal, books loaned.....1,514

From January to May, 1924, inclusive:

1. Books loaned outside of Des Moines.....1,063
2. Requests by mail..... 400
3. In Des Moines, or personal, books loaned.....1,319

It has been the aim of the librarian to interest the physicians of the state in the library, by send-

ing out books she thinks they may be interested in, for a limited period, thus establishing the principle of a circulating medical library.

It will be noted that the number of books asked for by physicians outside of Des Moines for the last seven months of 1922 was 339 and for the first five months of 1924, 1063.

We trust that our physicians will interest themselves to the extent of using their influence to secure larger appropriations for additional assistants in the library, thereby increasing its value to those who use books. We are fortunate in the cordial cooperation of the state librarian, John-son Brigham.

THE UNITED STATES VETERANS' BUREAU

It is encouraging and hopeful to note the efforts being made by the Veterans' Bureau to compensate those who suffered physical and mental loss in the service of the country in war. It is pleasant to read the bulletins issued by the department and observe the safeguards to the welfare of crippled soldiers. It would seem that nothing was left undone to protect the soldier in every respect, except in one particular, and that is in medical service.

Congressional enactment and established rules will not operate automatically, but it is expected that watchful care will bring the remedy which has been provided by law. But there is always the personal equation which cannot be counted upon with certainty. A dereliction of duty on the part of a physician or attendant can be remedied by a discharge and a new appointment, to be followed by the same result, and nothing has been accomplished. The fact of fundamental importance is the selection of the right kind of physicians and the right kind of attendants, and not depend upon rules, regulations and enactments. To secure the right men it is of first importance that the service be made attractive, either by compensation in money, or what is of greater importance to medical men, honorable recognition.

It is not intended that the service should be entirely of the nature of a custodianship, but an effort to restore the crippled soldier to a state of helpfulness. The professional qualifications should be of high order and this can only be accomplished by a thorough and expensive training, not only in a first class medical college, but by courses of graduate training. It may be assumed that the superior medical student will seek an avenue that promises the best for the future. Will it be in institutional service? Or will it be in private practice where hospital and university

connection may be secured, where the limit of success will be determined only by ability, skill and industry? Under present conditions does the Veterans' Bureau Hospital service offer any reasonable approach to this? Our personal observations are that the men who have thus far been secured, are of the right kind, but we are convinced that unless something more definite and attractive is offered, there will be a gradual decline in efficiency. The men now in the service gained their initiative by their army service under conditions that are not likely to arise again. The young man that goes into the service now will not be of the higher class for very obvious reasons. This service has not yet reached the status of the insane hospital service, and the opportunities for advancement and distinction are far from equal. It will probably be contended that the shortcomings of the Bureau may be supplemented by a consulting staff, but this is not true, although it may be helpful, the real service must be continuous and in the hands of the resident staff, as it is in every other hospital.

Again, as it seems to the writer, the medical staff will be hampered and restrained by innumerable rules and regulations, destructive to personal initiative. The kind of men needed for this most important service should be men who may be given a free hand under few regulations and be held responsible for results and not be held for good service on the number of rules they have observed.

We have read many bulletins with admiration, but observed little that is fundamental. We cannot avoid the impression that those in authority have in mind the idea that a doctor is a doctor, who may be found at the cross-roads, and if he is not satisfactory, get another. It should not be so, for, while the Bureau may not be able to secure the highest ability, the Bureau may be able to secure highly trained good material by giving rank and recognition, reasonable compensation and retirement pay. Our impression is that the Bureau would be glad to do this if the government would provide. We are of the impression that Gen. Hines realizes that his work will not be successful unless he can secure competent personnel—if he is obliged to secure doctors where he may, without much regard as to their fitness.

The selection of attendants is not less important, particularly in the hospitals for insane soldiers, where the contact has so much to do with the comfort and welfare of those mentally crippled, even if the large moron class enlisted into the service offers but little in the way of permanent restoration.

We have only to refer to the Public Health

Service, where General Cummings realizes the great difficulty in securing competent men, and also the regular army, which is short in medical officers.

It is sincerely to be regretted that our best young men are avoiding public service, and it is to be hoped that the near future is to measure the strength and weakness of our government and lead to a better understanding of our duties and obligations as American citizens.

MEDICAL EDUCATION IN SOVIET RUSSIA

The British Medical Journal for June 14, 1924, presents a Review of Medical Education in Soviet Russia, prepared by W. Horsley Gault, B.Sc., M.D.

The necessity of medical practitioners has compelled the Soviet government to give some attention to medical education although there has been much interference with the work of medical institutions, probably less, however, than in many other directions.

At the beginning of the World War in 1914 the medical universities were well equipped and received all they needed, although the number of students was not sufficient for Russia's needs. From 1914 to 1917 the schools received progressively less in funds and material, so that by 1917 they were getting about half the pre-war funds and no equipment. The condition of the hospitals was better, but there was but little of medical supplies. Then came the revolution and the experiment of communism, which was applied to the schools as well as the individual. During these years there were almost no funds, materials or medical supplies, no repairs to the buildings and only a very small supply of fuel or food. Earnings were made impossible because all trading was abolished. Distinguished professors spent part of their time shoveling snow, standing in line for their rations of black bread, potatoes and herring. The only thought was to secure enough coarse food to keep body and soul together.

For 1922 and 1923 conditions were better. The government, which financed and controlled the schools, furnished an increased amount of new material, but the depleted supplies have not been replaced.

There has been a large increase in the number of students and a large increase in the percentage of women and of workmen and peasant students. A large reduction of budget. The Central Soviet Committee in Moscow exercises a nominal control of the schools and in spite of impaired facili-

ties and equipment, through exhaustion of finances, with resulting lowering of efficiency of teaching in some branches, there has been some growth in other lines, particularly in public health instruction. The schools were almost completely paralyzed from 1917 to 1920, but made a remarkable partial recovery during 1922 and 1923, and they are being gradually restored to their former condition.

The proportion of doctors to population in Russia is one to 5,800, in Great Britain, 1 to 1400, in the United States 1 to 800.

The fees paid by students in Russia in pre-revolutionary times was 50 gold roubles, or about \$30 each semester. In 1923, 200 to 500 roubles, or \$5 to \$10 per semester. The salaries to professors before 1914 was \$300 per month; in 1917 barely enough for living expenses. From 1917 to 1921 no salaries were paid in Russia and every one who performed some "useful productive work" was issued a ration. During 1919 and 1920 the ration was less than one pound of black bread and about half a pound of potatoes. In 1921 salaries were again paid starting at about \$5 maximum, monthly, and have gradually risen to about \$17 as a maximum, supplemented by a ration of flour, potatoes and herring or about 1500 calories daily and free apartments. Dr. Pavlov, whose special worth has been recognized by the Soviets, receives that amount.

It may be easily seen what the destitution of the medical profession in Russia has been and now is, and starvation must have come to many had it not been for the British and American Students' Relief Committees.

REPORT OF HOSPITAL STANDARDIZATION, 1924

The annual official announcement of Approved Hospitals in the United States and Canada was made October 20 at the Hospital Conference of the Clinical Congress of the American College of Surgeons, New York, by Franklin H. Martin, M.D., director general.

The official list of hospitals meeting the minimum requirements of the American College of Surgeons presents the results of the seventh survey of hospitals of 100 beds and over, the third survey of hospitals of 50 to 100 beds, and the preliminary survey of hospitals to 35 to 50 beds, making a total of 2,366 hospitals surveyed, of which 1,416 or 59 per cent meet the requirements.

The director general in presenting the report said in part: "The program of the American College of Surgeons is definite, its requirements are reasonable; its methods of presentation are acceptable. The personal visits and the impartial manner in making the

report appeals to the hospital as an unprejudiced effort to arrive at facts. The movement is now its own propagandist for it has proven its worth. The requirements are universally acceptable for they aim at focusing the hospitals attention directly on the care of the patient. This surely means much to the 12,000,000 patients passing through the hospitals of the United States and Canada annually.

This report is based on the findings of a detailed survey made through personal investigation, carried on by representatives from the college trained and qualified to do the work. A corps of such representatives cover the United States and Canada annually and "find the facts" about each of these hospitals as to their organization, supervision, facilities, procedures, and particularly as to how they control and check up the work of the institution.

"This movement," said Dr. M. T. MacEachern, director of hospital activities, American College of Surgeons, "aims directly at the elimination of deficiencies in hospital services to the patient and the establishing of closer supervision and check-up on the work of the institution. It has been rapid in its acceptance and accomplishment, because of the whole-hearted cooperation of the hospital people and public generally, of the United States and Canada."

The total number of hospitals surveyed in Iowa was 38 of which 28 or 73.7 per cent met the requirements. The list of approved hospitals follows:

The asterisk indicates that certain hospitals have accepted the requirements which result in the best scientific care of the patient, but are not, for lack of time or other acceptable reasons, carrying them out to the fullest extent.

IOWA

100 or More Beds

Finley Hospital, Dubuque.
Iowa Lutheran Hospital, Des Moines.
Iowa Methodist Hospital, Des Moines.
Jennie Edmundson Hospital, Council Bluffs.
Mercy Hospital, Cedar Rapids.
Mercy Hospital, Council Bluffs.
Mercy Hospital, Davenport.
*Mercy Hospital, Des Moines.
*Mercy Hospital, Iowa City.
St. Joseph's Hospital, Dubuque.
St. Joseph's Mercy Hospital, Sioux City.
St. Vincent's Hospital, Sioux City.
University Hospital, Iowa City.

50 to 100 Beds

Des Moines City Hospital, Des Moines.
Iowa Congregational Hospital, Des Moines.
Iowa State College Hospital, Ames.
*Jane Lamb Memorial Hospital, Clinton.
*Lutheran Hospital, Sioux City.
Methodist Hospital, Sioux City.
*Ottumwa Hospital, Ottumwa.
Park Hospital, Mason City.
St. Francis Hospital, Waterloo.
*St. Joseph's Hospital, Keokuk.
St. Joseph's Mercy Hospital, Clinton.

St. Joseph's Mercy Hospital, Ft. Dodge.
St. Joseph's Mercy Hospital, Mason City.
St. Joseph's Mercy Hospital, Waverly.
St. Luke's Hospital, Cedar Rapids.

35 to 50 Beds

*Davenport Hospital, Davenport.

UNITED STATES AND CANADA

Hospitals 100 Beds and Over

Number of Hospitals Surveyed.....	961
Number of Hospitals Approved.....	831
Percentage	86.5

Hospitals 50 to 100 Beds

Number of Hospitals Surveyed.....	973
Number of Hospitals Approved.....	508
Percentage	52.2

Hospitals 35 to 50 Beds

Number of Hospitals Surveyed.....	307
Number of Hospitals Approved.....	49
Percentage	15.9

Summary

Total Number of Hospitals Surveyed.....	2,366
Total Number of Hospitals Approved.....	1,466
Average per cent for United States and Canada (50 beds and over).....	59

NATIONAL BOARD OF MEDICAL EXAMINERS

Philadelphia, Pa., Oct. 22.—Surgeon General Merite W. Ireland, president of the National Board of Medical Examiners, whose headquarters are in this city, anonounced today the names of the candidates who achieved the highest honors in the board's summer examination of students in Class A medical colleges throughout the country for qualifying them to enter the practice of medicine.

In the examination given to students at the end of the second year of their course, the ten candidates receiving the highest ratings out of the 238 examined were:

Theodore Dunham, Jr., of New York, who had his medical training at Cornell University Medical College; Henry S. F. Cooper of Cooperstown, New York, Harvard University Medical School; Mary Agnes Jennings of New York, Columbia University College of Physicians and Surgeons; Walter Francis Duggan of Monson, Massachusetts, Columbia University College of Physicians and Surgeons; William Henry Crawford of Reynoldsville, Pennsylvania, University of Pennsylvania School of Medicine; Rebecca B. Carter of Washington, Connecticut, Cornell University Medical College; William Borden Stevens of Newport, Rhode Island, Harvard University Medical School; Willard Owen Thompson of Halifax, Nova Scotia, Harvard University Medical School; Elmore Russell Bailey of Chicago, Illinois,

Rush Medical College, and Herman Slass of Jamaica, L. I., Columbia University College of Physicians and Surgeons.

Dr. Dunham who earned the highest number of credits had 402.1 out of a possible 425. He is a member of the Class of 1925 at Cornell. Dr. Cooper, the second, had 388.8 out of 425 credits.

The ten highest candidates of the 180 who took the examination for students completing their third and fourth years were:

Dr. Jean Crump of Pittsburgh, Pennsylvania, who had her medical training at the Woman's Medical College of Pennsylvania; Herbert Monheimer of Smethport, Pennsylvania, University of Pennsylvania School of Medicine; Jacob Morton Mora of Chicago, Illinois, University of Illinois College of Medicine; Carl E. Bachman of Reading, Pennsylvania, University of Pennsylvania School of Medicine; Martha C. Souter of Whitehall, New York, Cornell University Medical College; Kenneth E. Appel of Lancaster, Pennsylvania, Harvard University Medical School; J. Henry Rieniets of Arlington, Iowa, State University of Iowa College of Medicine; Evelyn Holt of Summit, New Jersey, Cornell University Medical College; Herman A. Lawson of Newport, Rhode Island, Harvard University Medical School, and Charlotte McCarthy of Evanston, Illinois, Rush Medical College.

The examinations were held in the following cities:

Tuscaloosa, Alabama; Albany, New York; Dallas, Texas; Buffalo, New York; San Francisco, California; Cincinnati, Ohio; Denver, Colorado; New York, New York; Hanover, New Hampshire; Boston, Massachusetts; Indianapolis, Indiana; Iowa City, Iowa; Baltimore, Maryland; Louisville, Kentucky; Los Angeles, California; Ann Arbor, Michigan; Minneapolis, Minnesota; Omaha, Nebraska; Chapel Hill, North Carolina; Grand Forks, North Dakota; Oklahoma City, Oklahoma; Portland, Oregon; Philadelphia, Pennsylvania; Pittsburgh, Pennsylvania; Chicago, Illinois; Syracuse, New York; Galveston, Texas; New Orleans, Louisiana; Nashville, Tennessee; Burlington, Vermont; Charlottesville, Virginia; St. Louis, Missouri; New Haven, Connecticut, and the following R. O. T. C. Army Camps:

Carlisle Barracks, Pennsylvania; Fort Snelling, Minnesota; Camp Lewis, Washington.

The National Board of Medical Examiners was organized to establish a standard qualifying examination of such character that its certificates of qualification to practice medicine would be accepted by medical licensing boards in all states, and the holder of this certificate be granted a license to practice without further examination. To date its certificate is accepted by twenty-nine states and territories and several foreign countries. The board aims not only to safeguard and simplify the process of determining those who are qualified to practice medicine, but to aid the medical colleges and state authorities in promoting high standards of medical education and practice. Examinations are open only to students of Class A medical schools, with automatically makes it impossible for candidates with fake diplomas to

secure its certificates and in this way helps the state boards in keeping out unqualified practitioners.

AN INTERESTING GROUP

Adrenalin, the original representative of the blood-pressure-raising or pressor principle of the suprarenal glands, introduced in 1901 by Parke, Davis & Co., has now an interesting group of offshoots—preparations which depend in whole or in part for their value as medicinal agents upon the adrenalin they contain.

There are adrenalin inhalant, adrenalin ointment, adrenalin suppositories, and, among the very latest and in some respects most remarkable combinations, an ointment which the manufacturers call anesthone cream because it has a local anesthetic effect in hay fever, rhinitis, etc.; there is said to be enough adrenalin in the formula to check excessive secretion and exert a reducing effect on the inflammatory condition to which much of the local irritation is due.

Adrenalin itself has many important applications, among which are to be reckoned the control of asthmatic attacks and the restoration of heart action in cases of shock or even apparent death.

AMERICAN HEART ASSOCIATION ORGANIZES BRANCH IN DES MOINES

A committee of local physicians has been selected by the executive committee of the American Heart Association to develop the work of prevention and relief of heart disease in Des Moines and Iowa. The committee consists of Drs. Walter L. Bierring, A. C. Page, John H. Peck, John Russell and Merrill M. Myers.

The American Heart Association was organized in June in Chicago, but a nationwide movement for the study and prevention of heart disease began in 1915 when the New York Association for the Prevention and Relief of Heart Disease was formed.

HYGIENE OF OLD AGE

In a recent broadcast on the "Hygiene of Old Age," Surgeon General Hugh S. Cumming makes a plea for a better understanding of this condition and argues for an attitude of optimism and cheerfulness when dealing with elderly people.

"There is too much of a tendency among persons reaching a certain age to persuade themselves that they have reached the last page of the book of life" says Dr. Cumming. At this point, he continues, "many seem to think that both mental and physical activities should be relinquished. The contrary viewpoint should hold. Efforts should be made to preserve such an equanimity of mind and purpose that old age will become a period of comfort and enjoyment. Old age should be a physiological

change of not unpleasant nature. Mental as well as physical diversion is essential to true happiness in old age. The reading of current newspapers and periodicals or of choice standard literature of the past is a definite antidote to the frequent habit of introspection and the tendency of the aged to despond. Sewing, weaving, simple carpentry, or other light manual occupations requiring dexterity and mental application are useful supplementary measures. The inclusion of the elderly in social gatherings and spirited conversations with younger persons is often stimulating. It should not be felt that a person is no longer entitled to an interest in life because he is old.

Radio broadcasting has opened up a vista of enchantment to the aged, especially to those with impaired hearing or failing vision. Not only does radio interest and instruct but it often soothes. With its kaleidoscopic changes of program, radio offers diversion which is hygienically helpful. Good radio music is thoroughly enjoyable, no doubt beneficial. One should not however, go to the extreme of keeping late hours even for interesting radio programs.

Many of the problems connected with the hygiene of old age are due to lowered mental power. Therefore, a cheerful and optimistic attitude towards the aged, especially during sickness, is essential to their well being. Old people regard their condition as far less serious when fully dressed and out of bed. However, when an elderly person complains of being over tired, or otherwise not physically fit, rest in bed for a day is advisable. By administering light and easily digested food and applying warmth to the body of an aged patient he is often tided over a prospective illness.

Special attention should also be paid to proper clothing, diet and exercise of the elderly. Inasmuch as body heat decreases after the age of forty, exercise is required to provide some of the deficiency. An English physician who recently reached the age of ninety-five years, advocates and practices a daily walk in the open, regardless of the weather. He cautions, however, against exercising to the point of fatigue. While all old people may not be able to follow this hardy example, it is nevertheless true that a moderate walk on pleasant days is a beneficial stimulant.

The digestive powers of the elderly are less vigorous and there is not as great a demand for body fuel as in earlier years. The principal features of a proper diet in old age include: first, a diminished quantity of food; second, the ingestion of food at more frequent intervals and in small quantities and; third, the use of easily digestible food which does not produce either too large or too small a residue of waste matter. Persons of advanced age are almost invariably lean, have partaken moderately of food and drink in earlier life and as a rule have eaten relatively little meat in later life. The foundation for a happy and comfortable old age is laid during the active earlier period of life.

With reasonable attention to certain well defined and easily accessible principles of personal hygiene,

it is possible, in many instances at least, to retain ones faculties to such an extent as to make old age a pleasure rather than a burden.

THE NELATON PROBE

In a recent paper Warren recalls the origin of the Nelaton probe. It was made of Nelaton's direction to detect a leaden rifle ball which he felt sure was lodged in the internal malleolus of Garibaldi. There had been a considerable difference of opinion as to whether the missile was retained or not. Partridge of Dublin, who was summoned, thought not; but a month later, in consultation with Pirogov and Nelaton, he changed his opinion. To make certain Nelaton had a probe constructed with a porcelain tip, and when this was introduced into the wound (by proxy) the lead marks on the tip was plainly visible. This was regarded at the time as a great triumph for French over the British surgery. The ball was extracted, but the wound took many months to heal. Warren published an interesting photograph of Nelaton, a man of handsome features and distinguished bearing, standing at the bedside and holding the hand of Garibaldi.—(British Medical Journal.)

SOCIETY PROCEEDINGS

Allamakee County Medical Society

The Allamakee County Medical Society met in Waukon, Wednesday, November 12 at 1 p. m.

The scientific program was given by Dr. W. J. Connell, Dubuque, whose subject was Preventive Medicine in General Practice; and Dr. J. C. Painter, Dubuque, who talked about Artificial Pneumo-Thorax. The paper by Dr. Connell, was intensely interesting, and invoked much discussion. Dr. Painter had a number of x-rays showing the good results that could be produced where artificial pneumo-thorax was indicated in tuberculosis of the lungs. Dr. Painter indicated that about 10 per cent of the cases that came under his observation could be benefited by artificial pneumo-thorax.

The excellent scientific program was due to the efforts of Dr. J. R. Guthrie, Dubuque, and a vote of thanks was given him by the Society, for his aid in helping them with their program. The following officers were elected to serve for the year 1925: C. W. Rominger, M.D., Waukon, president; Phillip Le Tourneau, M.D., Waukon, vice-president; John W. Thornton, M.D., Lansing, secretary-treasurer; Fred W. Kiesau, M.D., Postville, delegate; Roy R. Jeffries, M.D., Waukon, alternate; Solon P. Bradley, M.D., Lansing, George F. Kelleher, M.D., Postville, and Roy R. Jeffries, M.D., Waukon, censors.

Dr. Paul E. Gardner, New Hampton, councilor of the fourth district, and chairman of the board of councilors, was present and gave a very interesting and inspiring talk.

The meeting was well attended by the doctors in

Allamakee county, and this society is planning on again taking the prominent place in the affairs of the State Society which they once held.

Butler County Medical Society

The Butler County Medical Society met at Allison September 30. Officers elected were: Dr. M. B. Call of Greene, president; Dr. Roder of Dumont, vice-president; Dr. B. E. McDowell of Allison, secretary and treasurer.

Members present: Doctors Call and Meyne, Greene; Smith, Clarksville; Ensley, Shell Rock; Evans, New Hartford; Mooney, Parkersburg; Roalfs, Arlington; Roder, Dumont; McDowell and Reeve, Allison.

Calhoun County Medical Society

The Calhoun County Medical Society met at Lake City Community building on October 16 with an attendance of over 50 per cent of the membership. An exhaustive review of the subject Narcotic Addiction was given as a most interesting paper by Dr. Eleanor Hutchinson, superintendent of the Woman's Reformatory at Rockwell City.

After a courtesy luncheon served by the Lake City physicians, the business session resumed and continued until three o'clock p. m. It was voted to continue the monthly meetings at eleven a. m. hour.

The committee on lay publicity in medical matters, given carte blanche at a former meeting, reported progress.

P. W. Van Metre, M.D., Sec'y.

Clayton County Medical Society

Clayton County Medical Society met in Elkader September 29.

Papers were presented by Drs. McGrath of Elkader, Bronson of Monona and Cahill of Volga.

Clinton County Medical Society

About twenty members of the Clinton County Medical Society enjoyed an outing last night at the Nelson cabin a few miles down the river. A steak fry was enjoyed in the evening and the remainder of the evening spent in card playing.—Clinton Herald.

Dallas-Guthrie County Medical Society

The Dallas-Guthrie County Medical Society met in Panora, Iowa, on the afternoon of October 16.

Before entering into the labors of the session the members and their guests partook liberally of fried chicken and all the "fixings", and the spirit of good fellowship and good cheer thereby engendered, made the meeting a very pleasant one indeed.

The scientific program was as follows:

Dr. Tom B. Throckmorton, Des Moines—Acute Infantile Paralysis.

Dr. Throckmorton stressed strongly the importance of an early diagnosis, illustrated how one could be confirmed by doing a lumbar puncture, and told

of the results of the early use of the proper serum, which is now available without charge.

Dr. Lee F. Hill, Des Moines—The Present Status of Scarlet Fever and Demonstration of the Dick Test.

Dr. Hill demonstrated the Dick test on several school children and showed how this test could be used to indicate those who were not immune to the disease. By the administration of the proper serum, immunity could be secured and the disease rendered less of a menace.

Dr. Roy T. Jones, Linden—Tuberculosis in Panama, and Results of Treatment with Ethel Ester of Chaulmugra Oil in a limited number of cases.

Dr. Jones gave the society the benefit of the notes he had made while in Panama, on the treatment of tuberculosis with Chaulmugra Oil. The tubercular and leprosy bacilli are very much alike and it was thought Chaulmugra Oil might have a beneficial effect in tuberculosis. However, leprosy produces fibrosis and tuberculosis heals or limits itself by fibrosis. The action of Chaulmugra Oil tends to break down and disintegrate the fibrous tissue, and its use in tuberculosis on that account, had an unfavorable rather than a beneficial action on the disease.

The following officers were elected: President, Dr. W. R. Van Duzer, Casey; vice-president, Dr. R. E. Doidge, Perry; secretary-treasurer, Dr. S. J. Brown, Panora; delegate, Dr. M. N. Volding, Woodward; alternate, Dr. J. W. Harrison, Guthrie Center; member board of censors, Dr. C. O. Sones, Panora.

Of the thirty-five members of this society, thirty were present, as well as visitors from other county societies. Among those present were Dr. Channing Smith, councilor 7th district; Dr. M. N. Volding, superintendent of the Iowa Colony for Epileptics at Woodward; Dr. F. W. Fordyce, Des Moines, and C. G. Throckmorton, business manager of the Journal.

Fayette County Medical Society

October 17 a most enjoyable session of the Fayette County Medical Association was held at the county home at West Union, and a most interesting clinical session was held. Papers by Dr. Boody of the state hospital at Independence, and one by Dr. C. B. Luginbuhl of Des Moines were read and discussed.

A banquet was served to the medics by the superintendent of the county home and the board of supervisors were in attendance with the association. Those attending from Oelwein were Drs. C. D. Bothwell, F. P. Leehey, Smith Kennedy, D. W. Ward, G. N. Wasson and C. J. Cooney.—Oelwein Tribune.

Greene County Medical Society

Greene County Medical Society met at the home of Dr. and Mrs. F. E. Cressler in Churdan, September 23. After a six o'clock dinner, the medical gentlemen adjourned to Dr. Cressler's office to discuss various medical subjects.

Mahaska County Medical Society

Mahaska County Medical Society met at the Hotel Downing for the annual banquet and social. About sixty places were occupied and the affair was the largest and the best in many seasons so said those who participated.

Dr. B. G. Williams, president of the society presided.

The feature of the evening was a lecture by Dr. Fals of the chair of obstetrics of the State University of Iowa.

Following the lecture a quiz or round table was indulged in which practically the entire company participated.

Physicians were present from New Sharon, Leighton, Fremont, Rose Hill and other points in the county.

Mitchell County Medical Society

Perhaps the largest and most interesting meeting of doctors ever held in Mitchell county was gathered at the K. of P. Hall, St. Ansgar, Thursday evening, September 25 under the auspices of the Mitchell County Medical Society and as the guests of Doctor W. S. Osborn, vice-president of the society.

More than thirty doctors from Mason City, Charles City, Osage, Decorah, Northwood, Riceville, Stacyville, Rudd and St. Ansgar gave enthusiastic accord to the addresses illustrated with stereoptican views and the demonstrations by Drs. A. L. Yocom, Jr. of Chariton and O. W. Wyatt of Manning.

Dr. Yocom opened the program with a paper on the Treatment of Cancer of the Face by X-Ray and Electrical Heat. He showed more than one hundred slides of patients with cancer of the lips, nose, tongue, ears and about the head who had been successfully treated by this method. His paper elicited much enthusiasm and many questions from the doctors. Dr. Yocom is recognized as one of the best x-ray specialists in the mid-west.

Dr. Wyatt followed with a paper on the Electrical Removal of Tonsils, a method that is free from bleeding and shock and promises to replace the dreaded surgical operation for diseased and enlarged tonsils. Dr. Wyatt devised the instrument he uses which is a wire snare charged with a high frequency current of electricity. The operation is practically painless and takes less than fifteen seconds for the removal of each tonsil. Directly after the operation the patient is able to take up his usual duties without suffering or inconvenience and no danger of hemorrhage. The method is original with Dr. Wyatt and has been used successfully by him in scores of cases. A lively discussion participated in by Drs. Smith, Krepelka, Lott Grabb and Yocom followed with a demonstration by Dr. Wyatt.

In the presentation of their papers Drs. Yocom and Wyatt were assisted by Mr. Justin Lund and Dr. Osborn.

The Mitchell County Medical Society is to be congratulated by the progressive spirit they have shown in securing these men to address their meeting.

After the program an appetizing luncheon was served by Mr. and Mrs. Hugh Starr, and the meeting was adjourned at a late hour.

Among those present were: Drs. Griffin, Minor, McCrary and Fillingsworth of Charles City; Drs. Grabb, Farrell, Holman, Woodward, Starr, Barbour, Newcomber and Carlton of Mason City; Drs. Lott, Owen Savre, Lee and Mrs. Wiggins of Osage; Drs. Walker, father and son of Riceville; Drs. Smith and Krepelka of Stacyville; Dr. Saunders of Northwood; Dr. Lacy of Rudd; Dr. Kern of Decorah; Dr. Yocom of Chariton; Dr. Wyatt of Manning, and Drs. J. C. and Lorenz Westenberger and W. S. Osborn of St. Ansgar.

Tama County Medical Society

The Tama County Medical Society met at Conant's Park, Gladbrook, Iowa, October 15, 1924.

Preceding the business session, the president introduced Mr. Walter Gethmann, formerly of Gladbrook, but now in Y. M. C. A. work in Czechoslovakia, who spoke informally on that country. Mr. Gethmann is an able speaker and might well grace the platform of any lecture course. Many questions were asked by the doctors, which he answered in a splendid way.

A paper on Diphtheria was read by Dr. A. C. Pace of Toledo. This was well discussed and a motion was carried to appoint a committee for the purpose of bringing before the public through the various county newspapers the advisability of having children Schick tested, followed by the prophylactic toxin-antitoxin treatment indicated.

Members present: Drs. Pinkerton, Walters, Whalen, Allen, Fee, Launder, McDowell, Crabbe, Farnham, Maplethorp and Doering.

The next meeting is to be held at Traer about the middle of December.

A. J. Farnham, Sec'y Pro Tem.

Austin Flint-Cedar Valley Medical Society

The meeting was called to order by the president, Dr. C. F. Starr at 10 a. m., October 7, 1924, at Algona, Iowa. The minutes of the last meeting were read and approved. Drs. Evans, Schilling and Gardner were appointed to act as a board of censors in the absence of the regular board of censors. The following applications were approved by the board of censors and elected to membership in the society: Dr. Frank J. Bries, Sumner; Dr. C. F. Roder, Dumont; Dr. G. H. Granau, Riceville; Dr. Ed Nowak, New Hampton, and Dr. W. A. Bockoven, Ridgeway.

The following applications for membership were received at this meeting: Dr. Guy B. Anderson, Swea City; Dr. B. C. McDowell, Allison; Dr. T. J. Irish, Forest City; Dr. A. L. Judd, Kanawha, and Dr. A. L. Spooner, La Verne.

The scientific program started with a paper by Dr. S. B. Chase of Fort Dodge on Diagnosis and Treatment of Eye Conditions Met with in Every Day Practice. The paper on Public Health Sanitation, by Dr. C. W. Hubbard of Mason City was read by title

in the absence of Dr. Hubbard. The meeting was adjourned for lunch and re-opened at 1 p. m. with a skin clinic conducted by Dr. J. F. Auner of Des Moines. The remainder of the program was given as printed with the exception of the paper on Acute Chorca as Dr. F. R. Sparks of Waverly was unable to be present. The program was as follows:

Diagnosis of Common Bulbar Lesions—Dr. A. G. Asher, Ft. Dodge.

Fracture of the Inferior Maxilla—Dr. R. C. Coleman, Estherville.

Hydatidiform Mole—Dr. W. W. Bowen, Ft. Dodge.

Brief Resume of Well Known Facts in Regard to Cancer—Dr. W. A. Rohlf, Waverly.

Preventive Surgery of Pancreas and Bile Ducts—Dr. Golder McWhorter, Chicago, Illinois.

Because of lack of time discussion of the papers was necessarily omitted, which was very unfortunate as the papers were of unusual merit and would have stimulated free discussion.

Dr. N. Schilling invited the society to New Hampton for its next regular meeting in July. The invitation was unanimously accepted.

Dr. W. A. Rohlf moved that a resolution of thanks be expressed to the Algona physicians and their wives for the arrangements made for this successful scientific and social meeting. This was unanimously carried, as every one who attended absorbed the Algona spirit (not spirits) of the "Friendly City." The meetings were held at the Algona Country Club which gave not a few of the members an opportunity to chase the elusive golf ball.

At 6:30 the Austin Flint banquet was held with Dr. J. F. Auner acting as toastmaster and the address of the evening given by Congressman Dickinson of Algona. It is needless to say that the banquet was thoroughly enjoyed as Austin Flint banquets always are. Following the banquet dancing completed the evening's program. A large number remained for the dance which was most efficiently conducted by Dr. F. W. Peters of Burt.

The courtesy, hospitality and entertainment provided by the local committee together with the scientific program made up a most successful meeting.

L. A. West, Sec'y.

Southwestern Iowa Medical Association

The thirty-first annual meeting of the Southwestern Iowa Medical Association was held Thursday afternoon, October 2, in Red Oak. Fifty physicians aside from the local doctors were in attendance, coming from nearly every town in this section of the state.

Following a luncheon at the Griffith Inn at noon the business session was called at 1:15 o'clock.

The program of demonstrations, addresses and discussions follows:

Demonstration of the Anatomy of the Abdomen, Dr. Henry James Prentiss, professor of anatomy, State University of Iowa, Iowa City.

Address—Symptoms and Treatment of Abdominal Emergencies, Dr. John E. Summers, professor of clinical surgery, University of Nebraska, Omaha, Nebraska.

Demonstration of the anatomy of the hand—Dr. Henry James Prentiss.

Discussion—Treatment of Injuries of the Hand, Dr. Edward J. Harnagel, Des Moines.

Discussion—Treatment of Infections of the Hand, Dr. James G. McCrae, Creston.

Officers of the association for the past year are Dr. F. A. Bowman, Leon, president; Dr. J. C. Parsons, Creston, vice-president; Dr. J. C. Coontz, Garden Grove, secretary. The officers chosen at the meeting yesterday are: Dr. Leslie Lamb, Lorimer, president; Dr. William Amdor, Carbon, vice-president, and J. C. Parson, Creston, secretary and treasurer. The next meeting will be held at Creston in the spring.

J. S. Coontz, Sec'y.

Iowa and Illinois Central District Medical Association

The fall meeting of the Iowa and Illinois Central District Medical Association was held October 9 at eight o'clock at the Rock Island Club in Rock Island. The program consisted of a talk on Early Diagnosis and Treatment of Pulmonary Tuberculosis, by Dr. John Peck of Des Moines, and on Early Diagnosis and Treatment of Goitre, by Dr. Edwin P. Sloan of Bloomington.

In connection with his talk, Dr. Sloan showed motion picture reels of thyroid surgery. Dr. Peck had charge of the tuberculosis ward of Camp Dodge and is now director of Broadlawns, the new Polk county tuberculosis sanitarium at Des Moines.—Davenport Times.

Des Moines Academy of Medicine

The annual meeting of the Des Moines Academy of Medicine occurred Saturday evening, November 1, with a complimentary dinner given to the membership in the dining room, by the Iowa Methodist Hospital.

About forty invited guests were present at the dinner. The scientific address was delivered by Dr. Walter E. Dandy, neural surgeon of the Johns Hopkins Hospital, on the Localization of Brain Tumors, illustrated by lantern slides.

The officers elected for the ensuing year were Dr. Ralph H. Parker, president, Dr. Fred Moore, vice-president, and Dr. M. M. Myers, secretary and treasurer.

The Academy is incorporated under the laws of the state with a membership of about seventy-five. The purpose of the organization is to bring to Des Moines, the leading research workers and medical teachers of established worth.

Dr. W. E. Sanders.

MEDICAL NEWS NOTES

William F. Koch of Detroit, Michigan, who was expelled by the American Medical Association for refusing to make public his formula for "curing" cancer by injections, promises to divulge his secret in a subsequent issue of *Cancer*, the journal of the American Association for the study and cure of cancer, the editor of which is Dr. D. Duncan Bulkley.

The Detroit physician made his promise at the conclusion of an article on "The Function of Cancer" in the October issue of the journal. In the article Dr. Koch gives his reasons for maintaining that the disease is caused by a germ, which can be killed with the use of a synthetic chemical which forms an anti-toxin in the body.—Chicago Tribune.

Des Moines may be ranked as an "average" city so far as control over diphtheria is concerned, judging from a survey of the United States which has just been completed by the American Medical Association.

The results of this survey which have reached Dr. H. L. Saylor, city physician, show Des Moines with a death rate of 16 per 100,000 population for the period of from 1920 to 1923. The lowest death rate was five, recorded in Norfolk, Virginia, while the highest was 28.1 in Fall River, Massachusetts.

The report of the survey, as contained in the journal of the association says, "cities in the west north central states (of which Iowa is one) have not much to boast of. Diphtheria is apparently as much of a menace now as it was any time in the last twenty-five years."

Conditions in Des Moines are improving rapidly, however, according to Dr. Saylor's own records for the city, the death rate in 1923 being only thirteen for each 100,000 persons. The report says: "Figures now made available are a challenge to every city in the United States which has a diphtheria mortality rate higher than the strikingly low rate of New York City with 14.5."

The highest rate recorded in Des Moines in recent years was 25.6 in 1919. In 1922 the rate dropped to 17.8 and last year reached the lowest point on record.—Des Moines Register.

The Woman's Club of Rockwell City has engaged Dr. George Donohoe of Cherokee to speak on the topic: "The Responsibility of the Parents to the Adolescent Boy and Girl" at their general meeting on Friday evening, October 10 at 8 o'clock in the Legion Hall. On account of the wide appeal of the topic, the Chamber of Commerce is to hold a joint meeting with the Woman's Club and the public is invited to hear the lecture.

A paper recently read before the Board of Control of State Institutions, by John C. Tjaden, Ph.D., gave a survey on a diagnosis of the cases of twenty-six boys classed as of superior intelligence who had clashed with the customs or laws of their communities and were in trouble. The large factor in the

boys' failure seemed in every case to be lack of parental understanding and sympathy. The recent world famous case of the two boy criminals in Chicago points to the same need of a better understanding at the formative age. The purpose of the lecture is to give us the best that science has to offer today on the training of the young mind.—Rockwell Republican.

At the meeting of the Field Activities Committee of the Iowa State Medical Society at the Des Moines Club October 7, the increasing scarcity of general practitioners in rural sections was discussed. It was recommended that schools of medicine give special attention to preparing men for general practice and that they add a course in public health which would show the opportunities for community leadership in this line.—Des Moines Register.

A bronze memorial tablet in memory of Lieut. William T. Fitzsimons will be unveiled in the Bell Memorial Hospital, Kansas City, Kansas, by medical alumni of the University of Kansas. Dr. Merritt W. Ireland, surgeon general of the United States Army, will speak.

The hospital is a part of the medical school of the University of Kansas, from which Lieutenant Fitzsimons was graduated in 1912. He was the first American officer killed in the World War after the entry of this country into the conflict. He was with the Harvard university hospital in France and was killed when the hospital was bombed by Germans.

Lieutenant Fitzsimons's mother, Mrs. Catherine Fitzsimons lives at 5631 Euclid avenue.

Before enrolling at the University of Kansas medical school, Lieut. Fitzsimons attended St. Mary's College, St. Mary's, Kansas.

Many tributes have been paid the memory of Lieut. Fitzsimons. A hospital in Denver is named for him; several hospitals have memorial tablets. In Kansas City, a memorial fountain was erected at Twelfth street and the Paseo, from popular subscription, and a legion post here bears his name.

HOSPITAL NOTES

Dr. Mary Tinley of Council Bluffs spoke at the Catholic women's luncheon held at the Harris-Emery tea room. Dr. Tinley's subject was "Public Health in Relation to the Home." Dr. Tinley, with her brother, General Matt Tinley, operates a clinic hospital in Council Bluffs.

The twenty-first annual meeting of the Iowa Association of Registered Nurses was held at Hotel Fort Des Moines, November 18, 19 and 20.

A pageant depicting the history of the service was given by student nurses of the Des Moines hospitals under direction of Miss Anna M. Drake, state director of public health nurses.

Miss Agnes G. Deans of the nurses' central head-

quarters at New York City and Miss Mary Gladwin of the nurses' examining board of St. Paul were among the principal speakers.

Two clinics were held during the sessions, a cardiac clinic and a demonstration of the Dick test for scarlet fever.

PERSONAL MENTION

Dr. E. A. Nash of Peterson, Iowa, is preparing a volume of poems which will be issued by Stearn Brothers, Chicago, in the near future. It is so unexpected to have the authorship of a volume of verse announced from Iowa, that we wait with some interest for its appearance. Dr. Nash has for some time been writing songs and verse. We feel sure that the production will be interesting, particularly to his professional friends.

President Walter A. Jessup of Iowa University, has been invited to deliver the principal address at the James Whitcomb Riley Hospital, at Indianapolis. The institution is dedicated to the care of children.

Dr. Booth Miller, medical assistant to Superintendent Donohoe of the state hospital in Cherokee for the past twelve years, has accepted a position as first assistant to the superintendent of the state hospital at Roxbury, Massachusetts, and will leave some time soon for that place. His work here has been as a psychopathist.—Chief, Cherokee.

Dr. G. T. Harding, brother of the late President Warren G. Harding, was in Des Moines at the medical conference of the Seventh Day Adventists of the world. He is the head of the Adventists' sanitarium at Worthington, Ohio.—Des Moines Capital.

Dr. Howard H. Johnston, obstetrics and children's disease specialist of the Hampton Clinic, has accepted an invitation to give a discussion before a joint meeting of the Eastern Society of Anesthetists and the American Society of Regional Anesthesia at Hotel McAlpin in New York City. The meeting will begin Monday, October 20, and continue until, Friday, October 24. The honor conferred on Dr. Johnston by his being requested to address these two societies is great, as they are two of the largest organizations of the kind and number among their membership some of the most able physicians and surgeons of the country.—Hampton Chronicle.

Dr. W. G. Rowley was elected president of the St. Vincent Hospital Association, Sioux City, for the coming year at the annual business meeting. Dr. Roscoe Jepson was elected vice-president and Dr. Victor Brown, secretary-treasurer. Preceding the meeting, a four course dinner was served to the twenty surgeons by the sisters of the hospital. Dr. William Jepson, retiring president, presided at the meeting.—Sioux City Tribune.

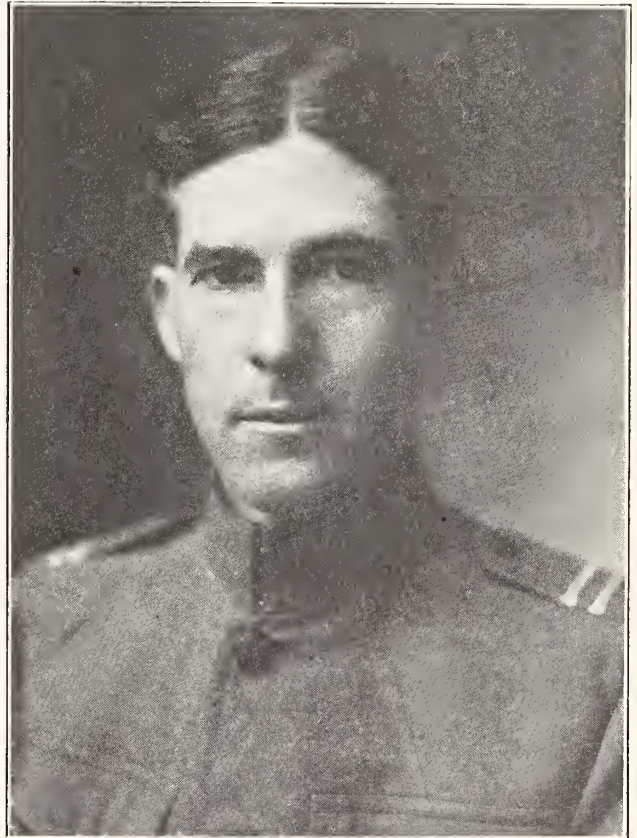
Dr. B. W. Caldwell, head of S. U. I. Hospital, will attend the annual convention of the American Hospital Association, at Buffalo, and read a paper there.

MARRIAGES

Dr. Martin H. Hoffmann of Dyersville and Miss Margaret Bosley of Detroit, Michigan, were married at Detroit, October 1. Dr. Hoffmann is a graduate from the College of Medicine, Iowa University.

Dr. Raymond E. Doering of Tama, and Miss Marie Taubert of Cape Girardeau, Missouri, were married September 20 at Marshalltown. Dr. Doering is a graduate from the School of Medicine, St. Louis University.

OBITUARY



FREDERICK J. McALLISTER

Hawarden

Born November 22, 1877

Died June 19, 1924

(See Page 481, October Journal)

Dr. E. F. Benhart of North English, died at University Hospital, Iowa City, September 30, 1924, at the age of twenty-eight years.

Dr. Benhart was born at Oxford Junction, graduated from Iowa State University in Liberal Arts and Medicine and located in North English in May, 1923.

Doctor Samuel Collins was born near Keokuk on October 23, 1862 and passed away in St. Joseph's Hospital, Montrose, Friday, September 26, at the age of sixty-one years, eleven months and three days.

Dr. Collins was a graduate of the College of Phy-

sicians and surgeons of Keokuk, thirty years ago, and has spent the most of his life in this vicinity, for since his graduation he has practiced his profession in Montrose and vicinity.

He was married to Miss Etta Crawford, July 6, 1904 who with three children and two brothers and a sister survive to cherish his memory.—Montrose Journal.

The Press received a telegram announcing the death, at his home in Jennings, Louisiana, on Tuesday evening, October 7, 1924, of Dr. N. S. Craig, for many years a practicing physician of this city, but who removed to Jennings with his family about a quarter of a century ago. No sadder news could have come to the friends of this beloved physician.—Manchester Press.

Clifton Archer Leech was born in Ohio, September 18, 1854, the son of Erie J. and Clara Leech, died at his home in Wellston, Michigan, September 24, 1924. He came to Keokuk with his parents when only a baby and was reared and educated here. He attended Prof. Jamieson's school for boys and the Keokuk public schools and graduated from the Keokuk College of Physicians and Surgeons, when he was twenty-one. His preceptor in this college was the late Dr. A. M. Carpenter. His first practice was at Fairbanks, Iowa, with an old physician. Later he practiced at Nauvoo and Streator, Illinois, and in Keokuk. His father, the late Erie J. Leech, was clerk of the United States court here at the time, and upon his illness and death, Dr. Leech assumed the responsibilities of the office for his father.

Since 1900 he has been engaged in other occupations, and at one time was associated with the late Harvey H. Abell in the management of the Hotel Andrus, here, and later he became manager of the Ellis-St. James Hotel in Quincy, until it was sold. Shortly after this sale he bought a tract of land in Wellston, Michigan. It was while engaged in work on this piece of land that he suffered a paralytic stroke. He never fully regained his strength and his heart became involved and he became worse gradually until he passed away.—Gate City, Keokuk.

Dr. John F. Myers, seventy years old, 716 Cook street, a resident of the city for more than sixteen years, died at his home Friday morning of a complication of diseases, after a lingering illness of several months.—Sioux City Tribune.

Walter Warren Cram, son of Dr. F. W. and Dora Walter Cram, was born in Sheldon, March 17, 1887, and died October 13, 1924. Walter received his early education at home, graduating from the high school in 1905. With a purpose of entering upon a medical career he went to Minneapolis and entered upon preparatory work at the university where he spent two years. While there he married in 1906 Mrs. Fannie Porter. After leaving Minneapolis Walter entered a medical school in Chicago where he pursued his studies for sometime, but desiring better

privileges than the school afforded, he returned to his own state and to the medical college at the State University where he graduated in 1921. Upon graduation he returned home and entered upon practice with his father.—Sioux City Tribune.

A BOOK OF IMPORTANCE IN THE PRESCRIBING OF DIETS

The dietetic importance of pure, plain, granulated gelatine has attracted so much attention, and the demand for more information has reached such a volume that the laboratories of the Charles B. Knox Gelatine Company have prepared a book of dietetically correct recipes with gelatine, for diabetes, nephritis, high blood-pressure, gastritis, gastrointestinal disorders, fevers, constipation, obesity, and general mal-nourishment in infants and adults.

The recipes have been most carefully worked out under authoritative auspices, and with each recipe is given a quantitative analysis of carbohydrates, fat, protein and calory value.

The diebetic section of the book is a most valuable contribution to advanced dietetic practice, with or without the insulin treatment. Another important chapter is the report of T. B. Downey, Ph.D., Fellow at Mellon Institute (Pittsburgh), on the value of pure, unflavored gelatine as a protective colloid in the modification of milk in infant feeding, which in no way changes prescribed formulas. Dr. Downey has determined, by standard feeding tests, that the addition of 1 per cent of gelatine to a quart of milk, increases the yield of nourishment by about 23 per cent.

Furthermore, these feeding tests determined that the protective colloidal action of the gelatine was highly efficacious in aiding the complete digestion and resulting assimilation of other basic foods of the vegetable, fruit, meat and fish families.

A most important feature of this book is the simple and complete directions for the preparation of these dishes, without which a prescribed diet so often fails despite the care and caution of the physician.

The book will be mailed, upon request—postpaid and free of charge—by the Charles B. Knox Gelatine Company, Johnstown, New York, to any physician or dietician who requests it.

THE SUPRARENAL PRINCIPLE

When the active principle of suprarenal glands was isolated for the first time—by Takamine in 1900—it was named Adrenalin, from the fact that the medullary portion of the suprarenal gland is properly known as the adrenal body. The history of suprarenal therapy has been written for the most part from experience with Adrenalin, and the majority of writers on the subject have given the product its proper name as designated by its discoverer well-nigh a quarter of a century ago.

There is now an Adrenalin family—in addition to the liquid in vials and ampoules: an ointment, a suppository, and an inhalant, all bearing the name and all depending upon the presence of Adrenalin in the formula for their efficacy.

The manufacturers, Parke, Davis & Co., announce that they have a booklet containing practical information on all the Adrenalin products, which they will be glad to send to any inquiring physician.

BOOK REVIEWS

DISLOCATIONS AND JOINT-FRACTURES

By Frederick J. Cotton, M.D., Visiting Surgeon to the Boston City Hospital; Associate in Surgery, Harvard Medical School. Second Edition, Reset, 745 Pages, with 1393 Illustrations from Drawings by the Author. W. B. Saunders Company, 1924; Cloth, \$10.00 Net.

The position which Dr. Cotton occupies in the world of fractures and dislocations, particularly joint-fractures, creates at once a place in the libraries of general surgeons, especially those who have to do with accident surgery, not only surgeons, but general practitioners, need this book.

Dr. Cotton is direct in his teaching and presents his subject clearly and concisely and leaves no doubt in the mind of his reader as to what he believes to be the best method of treatment in a class of injuries of great difficulty. Fractures which involve joints, if not treated with extraordinary skill and care, are liable to leave behind them disabilities which seriously impair the usefulness of the patient and involve the surgeon in a troublesome suit for damages, and a loss of reputation, particularly if it is shown that he did not employ the most approved method of treatment.

The author, in this book, has undertaken to present the treatment and the results from large experience in this class of work. We feel it an obligation to draw attention to the teachings of one who not only has had the experience, but is endowed with special mechanical gifts in devising methods which reduce the results of a distressing injury to the minimum.

Under the head of generalities, appear definitions, forms of fractures and diagnosis. Diagnosis of fractures is of first importance, together with form of fractures, which are fundamental in determining the treatment. The disasters following joint fractures we have found to be a failure to make a complete diagnosis. One of the important incidents in fractures is delayed union or it may be non-union, which should be carefully investigated.

The author has taken up the different forms of fractures which we shall omit from consideration in this review. In cases of non-union the course of treatment is operative. The different methods are presented. Considerable attention is given to com-

pound fractures and dislocations, which need much thought and careful surgical attention.

In the chapter on operative treatment of simple fractures the author confesses to conservatism, but admits "that there is a large field of usefulness for those whose experience renders such operative work reasonably safe and certain, in order to remedy most of those innumerable cases that have been a reproach to the profession—excused in the past, because in the past no better results were obtainable."

The usefulness of the book is greatly increased by the numerous illustrations which show the nature of the displacements which the text explains, and also the application of splints, the methods of reducing dislocations, etc. Fractures of the lower extremities receive much attention because of the necessity of securing a good result in walking. Much attention is given to x-ray discussion of fractures, but of great importance is a work of this kind in the hands of the practitioner, which may be constantly consulted and a preparation for these cases made in advance.

DIFFERENTIAL DIAGNOSIS

Presented Through an Analysis of 317 Cases. By Richard C. Cabot, M.D., Professor of Medicine and Professor of Social Ethics at Harvard University. Volume 2. Third Edition, Revised, Octavo of 909 Pages, 254 Illustrations. W. B. Saunders Company, 1924. Price, Cloth, \$9.00 Net.

The volumes on Differential Diagnosis which Dr. Cabot has presented to the medical profession, consider the significance of symptom pain with eleven other symptoms, were analyzed in reaching a diagnosis in cases in which these symptoms were the predominating ones. Having in mind the particular symptom, we were able by a process of logical analysis to reach a diagnosis, the correctness of which was finally determined by surgical operation, or by post-mortem examination, or the time element.

In the volume before us the author presents first Abdominal and Other Tumors, and says, "The diagnosis of abdominal tumors is in most cases either easy or impossible." But to be easy one should have a considerable knowledge of what tumors are likely to occur in each of the regions of the abdomen. The author then proceeds to point out the methods of examination.

If the tumor examined is in the epigastric region, it is probably cancer. If in a child, the diagnosis would be a tumor of some other kind. After reviewing a number of propositions in this connection, a series of cases are taken up that should be considered in histories. In this series are forty-one cases which present tumor as a predominating factor.

Next comes Vertigo, which the author cannot define in purely objective terms. First, physiological vertigo, as a dizzy sensation, if the person looks down from a height, car sickness, sea sickness and similar experiences. Pathological vertigo, vertigo

from organic brain disease, labyrinthine vertigo (aural), vertigo in neurotic patients, vertigo from cerebral anemia or transitory cerebral intoxication. These forms of vertigo are considered in some detail as a basis of analysis. Twenty-four cases are then reviewed from the standpoint of vertigo as the leading symptom.

Diarrhea is now analyzed as a predominating symptom. An important question is presented: What part of the intestine is affected? With the significance of diarrhea in mind, thirteen cases are subject to analysis.

Dyspepsia logically follows diarrhea. Dyspepsia is recognized as a symptom associated with many forms of disease. To make the subject clear, the author asks the question: What is simple indigestion? The answer to this question is important in considering the value of this symptom in analyzing the particular case. A series of forty-four cases are offered in which dyspepsia is a determining or important symptom.

Hematemesis: We are informed at once that "There are but two common causes of hematemesis, by which I mean the vomiting of pure blood in considerable quantity, an ounce or more. These causes are peptic ulcer and cecrrosis of the liver," but there are other causes which must be considered in arriving at an accurate diagnosis and eight cases are presented.

Enlarged Glands and What Stimulate Them, is the subject of another chapter set forth for analysis. So we pass to Blood in the Stools, Swelling of the Face, which has a rather wide significance, if persistent. Edema of the Legs has a like significance, particularly in cardiac and renal disease. Then we have Frequent Micturation and Polyuria, which are symptoms of considerable importance and rather frequently met with and the cause of these symptoms are often only determined by a careful examination and study of the urinary tract.

There are a number of determining symptoms which we have not referred to. This manner of diagnosis is extremely interesting and fascinating, not only in reaching a diagnosis, but as a habit of mind in analyzing cases of disease and their causes. Dr. Cabot has by his method contributed much to make clear the danger of hasty conclusions from placing too much stress on an apparent determining factor in a particular case.

THE OPERATING ROOM, INSTRUCTION FOR NURSES AND ASSISTANTS

By the Staff of St. Mary's Hospital, Rochester, Minnesota, (The Mayo Clinic). 12 Mo. of 165 Pages, with 144 Illustrations. W. B. Saunders Company, 1924. Cloth, \$1.75 Net:

St. Mary's Hospital stands first among the great medical institutions of the world and the book setting forth the operating equipment of this hospital should be most welcome. The introduction presents

the general arrangement of the operating rooms, followed by an outline of their equipment.

Then comes the Procedures, Preliminary to Operation, including the things for the work, and the schedule for the operating room and what should be considered during the operation. Under the head of Preparation of the Patient for operation, comes the instruments for the several operations, each operation being specified under an appropriate heading.

Following the operating schedule we have presented the Technic of Blood Transfusion, Anesthesia, Methods and Preparation. Under Miscellaneous are included many things—syringes, needles, dressings, sponges, packs, caps, masks, gloves, etc. An important matter is in relation to solutions, their preparation and use. Another is drains, trays and special instruments, with many illustrations. There is also a voluminous index.

The new St. Mary's Hospital has been constructed after much thought and after many years of experience, and now the men connected with the Clinic have felt that they have reached a point where they could consistently lay before the profession the technic simple and direct which has come to them. The chief purpose is to impress upon nurses and assistants the importance of following measures which have proved necessary and efficient.

MEDICAL AND SANITARY INSPECTION OF SCHOOLS, FOR THE HEALTH OFFICER, THE PHYSICIAN, THE NURSE AND THE TEACHER

By S. W. Newmayer, A.B., M.D., Formerly Chief of Division of Child Hygiene; Assistant Chief Medical Inspector, Bureau of Health; Supervisor of School Medical Inspection, Philadelphia. Illustrated with 79 Engravings and 6 Full Page Plates. Lea & Febiger, 1924. Price, \$4.00.

Medical inspection of schools has been a recognized function of school boards, but the particular thing to be considered is, how may the inspection be made useful and efficient and how it may be adjusted to meet the requirements of particular schools.

The book before us points out how inspection may be organized, The School Nurse, System of Records, The Co-operation between the School and the School Doctor, School Text-books on Hygiene, Teachers, Janitors, etc.

Part two considers school buildings and grounds and the consideration of special classes for physically defective children. Part three presents a general consideration of communicable diseases among school children. Important and sometimes difficult problems arise in connection with ignorant and prejudiced patrons of schools, requiring exercise of much patience and information with parents.

Part four considers Physical Defects, the Eyes, Ears, Nose and Throat. Much space is devoted to the Teeth, Orthopedic Defects, Skin Diseases, Dis-

(Continued on Adv. Page xxiii)

BOOK REVIEWS

(Continued from Page 572)

eases of the Nervous System, and Systemic Diseases.

Part five, the Health of Teachers. Part six, Mentality; Tests and Records, and Management of Defectives. Part seven, School Health Supervision, which is included among many other subjects, Safety First, Child Labor Medical Supervision.

This book should be in the hands of school teachers for their information and instruction. Co-operation is of the highest importance in securing the desired results. Without regard to sentimental considerations, the health and welfare of school children has a most important bearing on the future.

THE ROCKEFELLER FOUNDATION REVIEW
OF WORK IN 1923

By George E. Vincent, President.

The Rockefeller Foundation in its report for 1923 shows the following three expenditures: Public health, \$3,174,268; medical education, \$4,911,010; miscellaneous, \$8,431,075.

Its activities are included under twenty different heads. Among the items stated are the supplying fellowship funds for 636 individuals in twenty-nine different countries, supporting through the league of nations interchange institutes for fifty-four public health officers from twenty-seven nations, and so on through the twenty contributions.

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